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EDITORIAL

The reactions from the readers of our volume show that people appreciate our commitment to the development of Education through dissemination of research findings and to carry this journal to greater heights.

In this volume, we have continued to press forward to achieve our dream of perfection in journal production. Dr. Onifade, Ademola opens this issue with determinants of occupational stress and coping strategies of physical education teachers. The findings generate implications for the physical education educators. Prof. Ayanniyi Alhassan, Mr. Joseph Aboagye and Mr. George Kankam x-rays the problem of indiscipline in schools which has become a source of worry for the Ghana Education Service. The investigators threw light on management of the problem and its implications for policy and practice.

Gadagbui, G. Y. reports a study on Technology for eliminating disabilities and handicapping conditions in the Ghanaian society'. Ige, J. A. examined 'The Design of a Symbolic Programming System. Odumosu A. I. O. discussed some critical issues in educational research. The relevance of career centre as a career information strategy for enhancing the career exploratory behaviour of adolescents was examined by Onivehu, A. O. He considered the purposes and uses of career resource centre, rationale for their uses in career exploration and organisation.

Mentoring as a way of assisting beginning teachers in higher educational institutions was examined by Cofie, P. O. Aboagye, J. K. reported the results of a survey on the issue 'Who is an Educated Person?', conducted using 300 first year B.Ed. students in the University College of Education of Winneba. Mereku, K. D. reported an analysis of the demand for, and the supply of, Basic School teachers in Ghana for trends that are likely to influence plans currently underway to improve the nation's teacher education system.

The need to incorporate psychosocial life skills into the junior secondary curriculum through the medium of Ghanaian languages was discussed by Mr. Kamengtanye, A. M. The paper by Agyedu, G. O., Donkor, F. and Obeng, S. focused on the views of former students and course tutors as formative feedback for programme redesign. Seventy-eight former student teachers and eight tutors of a certificate in technical and vocational education programme participated in the study. Their views on usefulness and adequacy of competencies acquired on the course were sought.

Mallet, F. O. reports a study that examined the relations between senior secondary students' involvement in five different peer relationships namely peer acceptance, reciprocated friendship, peer group membership, peer victimization, peer tutoring and their influence on the students' academic achievement. Secondly, the study investigated the role that students' social inclinations (prosocial and antisocial behaviours) and emotional characteristics (distress) play in their academic performance. Finally, Yidana I. and Anderson K. examined empirically the relationship of SSS students' mathematical competency with their achievement in Elective Physics in Accra Schools. The study revealed that a good knowledge of mathematics enhances students' performance in Physics.

PROF. S. M. QUARTEY

PATRON, GEMTA

CONTENTS   Volume 4, 2000

Determinants of Occupational Stress and Coping Strategies of Physical Education Teachers

ONIFADE, A.[1]

Abstract

Those occupational stress factors that physical education teachers perceive as the most and least stressful in the performance of their job, the influence of some demographic variables on the perceived occupational stress and coping strategies were investigated. Three hundred and fifty physical education teachers attending a National Workshop on physical education served as subjects. Mean test and percentage statistical analysis indicated that too many students and not enough physical education facilities/equipment was the most stressful factor. Stressing the teachers least was the fear of getting/contracting disease on the field. Experience had significant influence on perceived occupational stress but sex, qualification and marital status did not. Majority of teachers cope with stress by arranging intramural competitions. The implications of the findings for physical education were also discussed.

Introduction

Most efforts at improving the teaching-learning situation in physical education in Nigeria are frustrated by many problems. Such problems include dearth of textbooks, low funding, inadequate obsolete equipment and facilities, inadequate number of teachers, and static curriculum. Other problems are those of ill-prepared teachers, students' lack of interest in the subject and exodus of teachers from the profession (Oyewusi, 1978, Ayodabo, 1986, Omidiran, 1990 & Onifade 1992). These problems invariably lead to stress on physical education teachers in the discharge of their duties. Many studies have also investigated and identified conditions and situations that cause stress on teachers generally. Such conditions are poor working conditions (Rowsey and Ley, 1986: Okebukola & Jegede 1989), misbehaviour of students (Dunham, 1984; Veeman, 1984), lack of teaching resources (Okebukola, 1992) overload with non-teaching duties (Payne and Furnham, 1987), pupils poor attitude towards work (Kyriacou, 1987, Okebukola and Jegede 1992) lack of opportunities for professional improvement and inadequate disciplinary policy of the school (Okebukola and Jegede,, 1992).

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It has been suggested thus, that one major reason that teachers (physical education teachers are no exception) drift away from the teaching profession is the factor of occupational stress (ILO, 1981).

The issue of factor of occupational stress is receiving a great amount of attention from both writers and researchers lately (kyriacou, 1980: Kyriacou, 1987: Payne and Furnham, 1987; Okebukola 1992 and Okebukola and Jegede, 1989). However there is little or no known report on the stress factors of physical education teachers. Okebukola and Jegede (1989) supported this assertion when they stated that there is no report from Africa on stress factors of teacher generally whereas the International Labour Organisation (1981) and Sithumbayi, (1986) argued that African teachers have a high potential of experiencing stress.

One insight into understanding the nature of stress in teaching is a suggested by Dunham (1984). He identified three major approaches of (a) engineering model which looks at the pressures exerted on teachers in schools (b Physiological model which focuses on the teachers reaction to pressure and (c) interactional model which is concerned with the pressures, reactions and coping strategies. Of course the environment in which teachers operate is naturally stressful and they attempt to react and cope with this stress.

Onifade (1986) stated that physical education teachers by virtue of their profession operate in a complex and stressful environment. This environment (poor salary, ill motivated students, poor and archaic teaching materials, poor office space) brings a lot of stress, it is therefore imperative to emperically establish these stress factors of physical education teachers so as to improve their output.

Evidence (Fraser, 1989; Fraser, Mash & Fisher 1983) Fraser, Docker & Fisher 1988 & Okebukola, 1992) show that stress hinders teachers performance. According to Anderson (1989) and Helgeson (1988) declining teachers' performance would in turn translate to declining students' achievement. This study therefore underscores the need to consider the issue of stress conditions and situations on physical education teachers, which can promote or hinder the teaching-learning process. Kyriacou (1987) added that prolonged occupational stress leads to both mental and physical ill health on the part of the teacher. There are not many efforts in empirically identifying those conditions or situations that cause stress on physical education teachers. Herein lies the significance of this study, which focuses on the issue of stress on physical education teachers.

There is little or no efforts specifically directed at identifying factors that stress physical education teachers in particular. It is hoped that findings from the study will assist in improving the teaching-learning situations in physical education. The study could also reveal some needs of physical education teachers thereby assisting administrators in formulating appropriate welfare policy for physical education teachers.

It is not enough to identify stress factors of physical education teachers. The logical corollary is to find ways of assisting them to eliminate these stressors where possible and where not possible, suggest ways of coping. This latter reason is another focus of this study.

With respect to coping strategies, research findings are on classroom teachers generally as opposed to physical education teachers specifically. Kyriacou (1988) found that the three most employed coping actions were "trying to avoid confrontations, and trying to relax after work". Dunham (1984) revealed that

"Talking over stressful situations with my husband/wife/family". Talking about it with colleagues at school", trying to say No to unnecessary demands" and trying to bring my feelings and opinions into the open" were the most important coping strategies among secondary school teachers.

In Dunham (1984) study, the top two coping strategies were "Setting aside a certain amount of time during the evenings and at weekends when I refused to do anything connected with school" and "trying to come to terms with each individuals situations. Kloska and Ramasut (1985) found that the top four coping strategies among teachers were "Lead as full/varied life as possible outside school," look forward to holidays/end of the day", talk with husband/wife/partner/friend", and talk to other members of the staff about it". Specifically, the study attempted to answer the following questions:

a.   What factors do physical education teachers perceive to bear the most and least stress on them in their discharge of their teaching engagement?

b.   Do factors of sex, experience, qualification and marital status influence their perception of stress?

c.   What strategies do physical education teachers adopt in coping with stress associated with teaching physical education?

Design and Procedures

The instrument used for data collection was the adapted 25 item self report Occupational Stress Inventory for Science Teachers (OSIST) developed by Okebukola (1988). The adapted instrument had science teacher changed to physical education teacher on all the items on the questionnaire and it has three sections A, B, and C. Section A seeks demographic data on sex, qualification, teaching experience and marital status, Section B contains the list of the 25 possible stressors on a four-point scale of extreme stress (4 points), moderate stress (3 points), very mild stress (2 points), no stress (1 point) for positively stated items while scoring was reversed for negatively stated items. The 25 stressors had eigenvalues loading highly on five factors labeled as: curriculum, facilities, student characteristics, administrative, professional growth and self-satisfaction. Each of the five factors has five component stressors. The subject is expected to mark on the scale that agrees with the degree to which the listed stressor brings stress to bear on him or her. A range of scores of 5 - 20 was obtainable for each of the five factors on OSIST and 25-100 for the entire instrument. Section C requests for open ended views on how the stressors are coped with. A panel of five physical education secondary school teachers and three physical education university teachers determined construct validity for the instrument. The entire instrument has a reliability coefficient of 0.81 after a two-week interval between administrations. While section B has a Cronbach alpha of 0.71,

Copies of the instrument were distributed to physical education secondary school teachers (n=350) attending a National Workshop on Improvisation in Physical Education for Secondary School P. E. Teachers. Three hundred and fifty completed questionnaires were finally returned.

Treatment of Data and Findings:-

The first research question of the study was to identify the factors which physical education teachers perceive to bring the most and the least stress to bear on them.

Table 1   Mean Scores and Rank Order of Stressors

CURRICULUM	MEAN	RANK ORDER
1. Overload Physical Education Syllabus	2.89	10
2. Not enough periods on the school Timetable for effective teaching of Physical Education.	2.85	12
3. Having to reach traditionally difficult topics.	2.20	24
4. Inadequacy of good physical education textbooks for students' use..	3.08	5
5. Having to teach other subjects like Biology, Integrated Science, that one is not specially trained for.	2.53	19
FACILITIES		
6. Having to use absolute facilities/equipment for P.E. teaching.	2.89	10
7. Too many students and not enough P.E. facilities/equipment.	3.46	1
	3.22	3
8. Lack/Inadequacy of instructional aids like projectors for teaching P.E. skills.	2.91	9
9. Non-availability of safety devices on the sports field.	3.05	6
10. Lack of maintenance for P.E. facilities/Equipment.		
STUDENTS CHARACTERISTICS		
11. Stealing of sports facilities/equipment and materials by students.	2.65	15
12. Students' demonstrated lack of interest.	2.43	21
13. Students' poor performance in physical education relative to the school subjects.	2,.56	18
14. Students lack of P.E. materials for use on the field such as balls and rackets.	3.04	7
15. Carelessness in the use of P.E. materials leading to damages.	2.69	14
ADMINISTRATIVE		
16. Having to comply with decisions taken without consultants with the physical education teachers.	2.61	16
17. Scheduling of physical education classes at awkward periods	2.98	8
18. Principal's reluctance to discipline misbehaving students.	2.28	23
19. Inadequate budget for Physical Education department/Unit.	3.23	2
20. Having to work with a Principal without a Physical Education background.	2.59	17
PROFESSIONAL GROWTH AND SELF SATISFACTION	2.32	22
21. Lack of opportunity to attend in-service training.	3.14	4
22. Delay in promotion	2.85	12
23. Non-payment of Physical Education teaching allowance.	2.49	20
24. Limited time for leisure and relaxation.	1.87	25
25. Fear of getting or contracting disease on the field.		

Data for this question were generated by first summing scores for individual stressors through the award of marks from 4 for extreme stress, through 3 moderate stress, 2 very mild stress, and 1 no stress, Second, the mean score of all the 350 respondents for each possible stressor was calculated and lastly the mean scores were rank ordered. This rank ordering provided information on the first to the twenty-fifth ranked stressor (Table 1). From the data in Table 1, it was possible to extract a list of the top ten stressors and five least stressors. The extraction in turn revealed that physical education teachers regarded the situation of too many students and not enough physical education facilities/equipment as most stressful factor.

Ranking second to fifth were, inadequate budget for physical education department/unit, lack/inadequacy of instructional aids like Projectors for teaching P. E. skills, delay in promotion and inadequacy of good physical education textbooks for students' use. Stressing the physical education teachers least were fear of getting or contracting disease on the field, having to teach traditionally difficult topics, principals reluctance to discipline misbehaving students, lack of opportunity to attend in-service-training and students' demonstrated lack of interest.

Another focus of this study was to compare the degree of stress according to demographics of physical education teachers. A total stress score was computed for each respondent as the sum of scores for each of the 25 possible stressors. A score range of 0-100 was obtained. The mean scores for each level in the groups understudy: Sex of teachers (male, female) teaching experience (experienced i.e. five or more years post qualification teaching experience, inexperienced i.e. less than five years post qualification teaching experience, qualification (i.e. degree holders and non-degree holders) and marital status (married and single) were compared using "t" test statistics (See Table 2).

Table 2   Means, Standard Deviations and T-Tests of the Different Groups of P.E. Teachers

GROUP	N	MEAN	S.D.	T
Male	275	67.73	8.23	1.05
Female	75	69.71	8.35	
Inexperienced	248	70.83	8.42	1.98*
Experienced	102	66.98	8.18	
Degree Holders	135	68.91	8.30	1.28*
Non-Degree Holders	215	73.54	8.56	
Single	59	69.64	8.35	0.94
Married	291	67.87	8.24	

*p 0.01

From Table 2, the t-test results show that female teachers were not significantly more stressed than male teachers. Inexperienced teachers were significantly more stressed than the experienced ones while non-degree holders too were not significantly more stressed than the degree holders. Married teachers were also not significantly more stressed than single teachers.

Table 3 Percentage of Physical Education Teachers Who Adopt Coping Strategies

COPING STRATEGIES	N	%
1. Attempt to convince Principal as to the importance of P.E.	203	58
2. Demand for more and better P.E. facilities.	79	22
3. Relaxation and Leisure.	208	59
4. Improvisation of P.E. facilities/equipment.	296	85
5. Arranging intramural competitions	320	91
6. Reduction of workload.	166	47
7. More emphasis on the theory of P.E.	187	53
8. Maintaining a carefree attitude.	175	50

In respect of how physical education teachers cope with stress, the free responses of the teachers in the sample were clustered around eight major ideas. These major ideas are presented in percentages in Table 3. A good proportion of the teachers cope by arranging intramural competitions, improvisation of P.E. facilities/equipment and relaxation and leisure. Few cope by demanding for more and better P. E. facilities/equipment reducing work load, maintaining a carefree attitude and placing more emphasis on the theory of physical education as opposed to its practice.

Discussion and Conclusion:

The first concern of this study was to reveal those factors, which stress physical education teachers in the performance of their job. Data from the survey indicate that too many students and not enough physical education facilities/equipment was the most stressful factor. Since physical education teachers realise that physical as a subject involves both theory and practice which must be emphasised equally, non-availability of physical education facilities/equipment could be seen as a major handicap to adequate emphasis on the practical aspect. This in turn will make it impossible to successfully achieve physical education objectives but especially the psychomotor objective. According to Okebukola & Jegede (1992), the resultant frustration could be likened to a farmer who is confronted with the situation of having to do his farming with his bare hands in the absence of farm implements.

The difficulty in obtaining physical education facilities/equipment to teach the psychomotor aspect of physical education can be viewed against performance in examinations. If necessary facilities/equipment are unavailable, students could perform poorly in examinations. Of course, any factor that will lead to students' poor performance will naturally stress teachers. This could be why the factor of "too many students and not enough physical education facilities/equipment" came to be most stressful factor for the teachers under study. Onifade (1986), Ayodabo (1986), and Omidiran (1990), have all revealed that inadequate physical education equipment is a major problem confronting the teaching of P.E.

Inadequate budget for physical education ranks second on the list of stressors on physical education teachers. How much can one do or achieve without adequate funds? Of course not much, thus making it no big surprise that this factor is one of the most stressful to the physical education teachers. With inadequate budget, it is not possible to provide enough and replace worn out physical education

materials i.e. balls, nets, rackets and others. Consequently, physical education teachers who desire to teach their subjects effectively will become apprehensive naturally on the thought of facing a class without having enough teaching materials. This is a situation no physical education teacher wishes to face. No wonder this factor of inadequate budget if quite stressful.

Lack of instructional aid like projectors for teacher physical education psychomotor skills ranked third on the list of top stressors. This could be very true in many Third World Countries where there are no changing rooms in schools for use after practical skills. Consequently many physical education teachers do not wish to spend much time teaching physical skills practically since they cannot clean up and refresh themselves easily. With adequate instructional aids, it might still be possible to teach physical skills well enough to some reasonable extent. This way, the practical teaching of physical skills could be complemented with theoretical teaching through instructional aids thus reducing the frequency of practical teaching. The thought of inadequacy of instructional aids is an experience physical education teachers detest. This in turn brings a lot of stress to bear on them.

Two other stressors worth mentioning among the top ten are: delay in promotion and inadequacy of good physical education textbooks for students' use. The former has implications for teachers turn over rate and commitment to work. According to Herzberg, Mausmer & Syderman (1969) the opportunity for promotion satisfies one's need for self-actualization hence the commitment and dedication to work. The latter is of serious concern in many African countries. Without adequate textbooks, effective teaching might not be possible.

These findings are at variance with those of previous studies which found such factors as poor attitude of students to work, difficulty in obtaining teaching equipment and lack of opportunities for professional improvement to be top stressors (Kyriacou, 1987, Okebukola & Jegede, 1989; 1992). It must be revealed though these previous studies were on teachers generally as well as science teacher.

Experience as a factor had an effect on the perception of situations that cause stress on physical education teachers. Inexperienced teachers were more significantly stressed. Sex, qualification and marital status had no significant effect on the perception of situations that stress physical education teachers under study.

This finding of significant influence of experience on stress level supports those of Okebukola & Jegede (1989; 1992), Nwabaosi & Ehimetalor (1986), Danylchuk (1993) and Onifade (in press). The finding could be deduced from the fact that as new teachers with no experience, they will need to adjust and cope with their new roles and responsibilities. They will also need to establish new relationships with colleagues and students and all these are potential stressors.

Another major focus of this study was to examine the strategies physical education teachers adopt for coping with the stressful contains. Some coping strategies are arranging intramural competitions to relief tension, improvisajtion of P.E. facilities/equipment, relaxation and leisure and attempting to convince the principal as to the importance of physical education. This does not support the coping strategies adopted by teachers in studies by Kyriacou (1980), Dunham (1984, Kloska and Ramasut (1985) and Okebukola & Jegede (1992). It is however

surprising that none of the teachers in this study stated that he/she engages in physical activities as a way of coping with stress. One could have thought that as professional physical education teachers, the importance of engaging in physical activities as a way of coping with stress would be obvious to them. Seiger & Hesson (1990) agreed that one healthy way of coping with stress is to engage in regular physical exercises.

One obvious implication of the findings of this study is that physical education administrators should be aware of the many factors that are potential stressors on physical education teachers. This will guide them in taking policy and administrative decisions on physical education teachers. Another implication is that physical education administrators need to be aware and consider the experience and competence of physical education teachers in assigning them responsibilities. This will go a long way in reducing stress on them.

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Indiscipline and Corporal Punishment in Ghanaian Schools: A Psychological Examination of Policy and Practice

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Abstract

The article explains the concepts of discipline and classroom discipline and posits that discipline is a *sine qua non* for effective teaching and learning. The classroom is a human arena where the interpersonal relationships between the teacher and the learner have great impact on teaching-learning process. Indiscipline in schools is becoming a worrying problem for the Ghana Education Service and most punishment is used in most is used in most schools and that majority of the teachers were in favour of it and want to continue to use it. The negative side effects of corporal punishment are highlighted. There should be a right balance between reward and punishment, as both seem to have a place in school learning. Finally, the findings generate implications for parents, teachers and the government.

Introduction

Discipline may be explained as an internal or external restriction or restraint on a learner or child. It is an outside control of the person through punishment, rewards and competitions. Teachers and parents usually use such controls to shape the behaviour of children. Tamakloe *et. al.* (1996) describe this form of discipline as *external*. The aim of external discipline is to bring about true discipline, which is self-discipline. This involves a process of training. Self-discipline is the ability to control oneself, one's desires, feelings, and so on. This type of discipline comes from within the child. The learner chooses out of his own free will to do what he thinks is good. Thus, discipline' is training that develops self-control, character, orderliness and efficiency. The best from of discipline is self-discipline. A pupil or a student should willingly choose to do what members of his society accept as good behaviour. Many children in primary and junior secondary schools cannot do this. It is for this reason that punishments or rewards have to be used to make them finally act in accordance with the accepted behaviour.

Adentwi (1991) explains classroom discipline as the prevalence of order within the setting where teaching and learning take place with a minimum of misbehaviour on the part of the teacher and the learner for the purpose of attaining the objectives of the school. Adentwi makes certain assumptions that there cannot be

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total absence of deviancy before discipline is said to exist. Second, discipline is a *sine qua non* for effective teaching and learning. Related to this is the fact that the classroom is a human arena where interpersonal relationships between the teacher and the learner have great impact on teaching learning processes. The final assumption is that classroom discipline is continuous process and not a transient process (Adentwi, 1991:14). These assumptions are supported by studies in sociology and psychology (Tamakloe *et. al.* 1996, Alhassan, 1997).

Literature Review

Seaga (1986) investigated parent-teacher relationships in a Jamaican village and found that there was strong parental pressure in Rural Ridge for teachers to use coporal punishment. Punishment has been used by adults in many African child-rearing patterns and in the moral training of African children. Social sanctions always involve punishment. Violation of any rules of the society usually incurs punishment. Punishment is a negative reinforcer. Although parents in Africa commonly believe that beating is necessary to ensure learning (Onwuka, 1989). Flogging and strict discipline are often unpopular among students and some parents (Blakemore & Cooksey, 1991). From the psychology of reward and punishment, we know that punished. This therefore implies that the use of punishment as an instrument for lowering the level of indiscipline may not produce the desired result.

Experience and research have shown that irrespective of very strict school regulations that are designed to prevent pupils from committing offences such as stealing, dishonesty, truancy, assault and insult and drug offences – these offences are on the increase in developing countries of Africa, (Ezewu, 1989). This seems to indicate that the external pressures that are expected to make individuals conform to the norms of society are not always effective.

The use of corporal punishment in schools is far less common in Western culture than it used to be. Its use is retained in very few western countries and eve in those where it is still permitted, such as Britain, some educational authorities moved to outlaw its use a few years ago. There are many reasons for this movement away from physical punishment. For example, Good and Brophy (1990:65) state that:

> The main problem with physical punishment is that it is a direct attack upon the students, and as such it is virtually impossible to pull off without creating anger and resentment. Furthermore, this anger and resentment usually is much stronger than any feelings of fear or contrition, so that the end result is that the physical assault does not function as punishment. That is, it does not reduce the tendency for the student to misbehave. It may give the teacher a feeling of satisfaction in seeing that students 'get what they deserve', but this obviously is not the same as meeting the students' needs. It constitutes revenge or possibly sadism, but not punishment.

Some Causes of Indiscipline in Schools

Media reports indicate that indiscipline in schools is becoming a worrying problem for the Ghana Education Service (GES). At the same most parents are genuinely worried about indiscipline in schools. We must however admit that indiscipline in our schools is a reflection of indiscipline among adults in the larger society. There is the prevalence of social evils like rape, drug abuse, drug trafficking, currency racketeering, child molestation, ritual murder, corruption, fraud, and conscious dissipation of state funds. This view finds expression by Akyeampong (1999:9) who states that armed robbery and use of narcotics drugs were formerly the

practice of few notorious adults who used to be nuisance to society, the youth, particularly those in schools are new actively involved.

Children who are severely disciplined for minor offences at home or at school are usually less courageous and less self-confident than children who have a sense of proportion about the consequences of their behaviour. Over fearful children are more likely to tell lies about their misbehaviour to avoid excessive punishment.

t school, rejected and over-indulged children may come up against the problem of authority in their demands for independence. At the same time they may strive for social recognition. Children who have been brought up in the homes for orphans may have had little opportunity to enjoy independence and emotional security. They may therefore find it difficult to socialize. Maternal warmth and affection, a consistent pattern of behaviour towards dependent behaviour in the child, gentleness in toilet training and restraint in physical punishment are the essential factors to guarantee independence in a young child.

Over-dependence in children is brought about by irritable mothers who reject the dependence demands of their children a for while but eventually give in, thus providing only partial reinforcement. As the child is not able to know how long the giving-in is going to last, he becomes over-dependent in his demands. When a child's independent and autonomous actions are frequently frustrated by an over-protective mother, the child may develop aggression and hostility at home and in school. As these developments take place in infancy, the school cannot do very much about children who have been predisposed by their parents' style of child rearing to show certain needs and certain ways of satisfying them.

Adolescents, particularly, resent being told what to do all the time. They dislike not being consulted before decisions are made about them and want to be involved in whatever affects them. Adults too, love to be independent, but in African schools we seem far too often to forget that this applies to children also. As Durojaiye (1990) puts it, our schools tend to be too regimented, with too many rules for arrival, attendance, play, work, meals and talk.

Arkutu (1993) similarly notes that commands dominate activities at play and at work to such an extent that one wonders why children do not revolt more than they do. The author is not advocating chaos but mutual respect and provision for responsible independence. Many children who object to teacher domination resort to delinquency and non-cooperation. Wanton destruction of school property, vandalism and unruly behaviour are deplored in all communities but we must look at school regimentation as one of the causes of bad behaviour and antisocial practice. The need for independence, freedom, responsibility and mutual respect between teachers and pupils must constantly be in the minds of teachers not only in Ghanaian but African schools.

Recent developments in the school system is really a cause for concern: 'Man beats up teacher' is the caption of *The Weekly Spectator* of August 7, 1999:3. To Mr. Eric Arthur (35) of the Ghana Consolidated Diamonds Ltd. at Akwatia in the Eastern Region, no teacher has the right to cane his child. Sowhen Miss Christina Asamoah, a teacher of Amanfrom Local Authority Primary School, near Akwatia disciplined Arthur's son Kwame was punished in school for misbehaving, he took the law into his own hands. Arthur brutally assaulted the teacher in full view of other teachers and school children. This earned him a six-month jail sentence in hard labour by the Asamankese Circuit Court on July 20 following accused to pay a fine of C100, 000 of which C50,000 was to be paid as compensation to Miss Asamoah or indefgault serve an additional 18 months in prison.

A logical question arises: what was Kwame Appiah disciplined for? According to Inspector E K Okyere, prosecuting told the presiding judge, Mr. S Appiah, that in the afternoon of July 19, 1999, Kwame Appiah, a pupil of the Akwatia Presbyterian Primary School was seen with some pupils from nearby L/A Primary School. According to the prosecutor, Miss Asamoah got attracted to the noise, which was being made by Kwame Appiah, and his friends and quickly warned them to stop 'But the children refused to obey the instructions,' the prosecutor said. Miss Asamoah who could not tolerate Kwame Appiah's disobedience held and caned him. Kwame Appiah, after the caning, insulted Miss Asamoah, and went home to inform his father. Arthur, not happy with the punishment of his son by the teacher rushed to the Amanfrom L/A Primary School and without any investigation any out pounced on Miss Asamoah and beat her up. The prosecutor said it took 15 minutes for teachers of the L/A Primary School to rescue Miss Asamoah from further punishment. A report was made to the Akwatia Police who arrested Arthur and charged him with the offence.

It is important to note, however that Kwame Appiah was not disciplined according to GES Policy out lined in the next section of this article – a situation that aggravated Arthur's indefensible and irrational reaction.

Educational Policy

According to Prof. Akumfi-Ameyaw (1999:1), the Director-General of the Ghana Education Service (GES), caning as a form of punishment for offending pupils is not prohibited as some parents and guardians think, and therefore assault teacher who flog their errant wards. 'It is allowed for certain degree of offences and must be administered by the head of the institution or his delegated representative'. The maximum number of strokes is six and those who resort to caning must record the number of strokes given in a book. The Director General emphasized that 'on matters of discipline, the GES will not compromise. Headmasters will support school management boards to apply sanctions as and when appropriate'. The Director-General urged parents and guardians to begin to work closely with the Education service to promote discipline as 'student indiscipline was becoming a tragedy for the GES.'

The Position of some Parents and Teachers

The concerned Parent and Teachers Association (CPTA) standing against caning insists on prohibition of caning by law in line with the United Nations Convention on the rights of the Child. The issue of corporal punishment has therefore been favourable to some parents and unfavourable to others. Parents who are in favour suggest that if and when corporal punishment is administered, it should be confined to prescribed pants of the body. The President of the Association, Annan-Forson (1999) stressed that if teachers were found not to be following the procedure as laid down in the teacher's handbook and were taking the law into their own hands, the school authorities should not encourage such issues. Parents, the Association insists, should be made aware of their children's behaviour that might subject them to punishment. This study was therefore embarked upon to find out teachers' perception of the use of corporal punishment in Ghanaian schools, given the Ghana Education Service (GES) Policy.

Design of the Study;

The study was a survey of the attitude of 200 sampled male (90) and female (110) teachers of first cycle schools in Winneba district towards the administration f corporal punishment in schools.

Instrumentation:

The main instrument of data collection was questionnaire. The questionnaire was content validated by experts in Psychology of Maladjustment and Behaviour Management in the University College of Education of Winneba. Suggestions made found expression in the final draft that was administered to the subjects. In addition, certain items were planted in the questionnaire to ascertain possible consistency of response from the subjects.

Results and Discussions:

Results revealed that corporal punishment is used in most schools and that majority of the teachers, 147 (73.5%) comprising 65 males and 82 females are in favour of it and want to continue to use it, because:

i.   they believe that it makes 'children change their bad behaviour',

ii.   this is the only language they understand,

iii.   parents flog their children constantly at home and,

iv.   'parents demanded that I punish them'.

Many psychologists would agree that the result of this kind of punishment is to generate in the child the desire to punish others. Children who are often punished also develop excessive anxiety, which may make it difficult for them to learn effectively. Odebunmi, cited in Izundu, (1987) postulated that the effectiveness of punishment as a behaviour control is determined by the presence of an alternative to the punished response. The punished behaviour will disappear as it is replaced by a desirable form of behaviour.

In an investigation into the problem of absenteeism and truancy in Nigerian schools, Alhassan (1997) reported that fear of corporal punishment was a causal factor of truancy as reported by teachers. This suggests that pupils are likely to avoid being caught for either lateness to school or incomplete assignment so as to avoid punishment. This find is consistent with those of other investigators such as Clegg and Megson (1992) and Reynold and Muurgatroyd (1984) who found, respectively, that high rates of corporal punishment were associated with more delinquency and poorer attendance. It seems important that there should be a right balance between reward and punishment. Both seem to have a place, but an excessive use of punishment is likely to be discouraging and leads to low morale. Praise rewards encouragement need to outweigh sanctions.

Punishment provides an inappropriate model of behaviour. Children may learn that they get their own way by hurting other people and copying adults in throwing their weight around in solving personal problems. When severe punishment is involved, aggression may be displaced and, though compliance in the classroom is obtained, other children suffer in the playground (Vargas, 1994). There may well be emotional side effects which can be more devastating than the behaviour which provoked the punishment. Anxiety reactions may cause children to 'clam up'. Mutual aversion can build up to the extent that positive interaction becomes impossible, and teacher and pupil become trapped in a series of clashes developing into a spiral of dislike.

Although punishments get quick results, these tend to be short lived. The punished behaviour may only be suppressed in the actual presence of the 'punishing agent'. This phenomenon is disconcerting for young teachers who find that though heads and senior teachers' support them by punishing children referred for misbehaviour, on their return the offenders rapidly resume their provocation. Sometime being punished merely teaches children to avoid getting caught. This can add to problems, and sometimes lying, cheating and even truancy may be tried to escape retribution of an initially less serious offence.

For the reasons advanced above, it can be seen that although punishment works, it does not mean that it should be used. There is also ethical and legal considerations concerning the use of harsh, intense punishment. Perhaps the greatest shortcoming of punishment is that, though it may stop a bad behaviour, it will not of itself start a good one. There are times when behviour is so disruptive, persistent or dangerous, that it must be stopped in the interest of safety, security and sanity. Actual physical danger to others is a clear example of a situation where punishment may well need to be used.

However, there are many less distinct areas. Some children test how far they can go and the establishment of clear boundaries regarding tolerable behaviour will give security to the rest of the class as well as the troublemaker himself. If punishment must be employed, then it should be administered in a calm and matter-of-fact manner, free from recrimination. It should follow a clear and unequivocal warning to terminate the undesired behaviour. If at all possible, this warning should be quietly addressed to the individual and accompanied by advice about what should be done instead. Thus mild reprimand may be sufficient in itself to stop the misbehaviour; if not, then the threatened punishment must follow.

Implications for Parents and Teachers:

There is no disagreement among students of child development and students of education and society that, of all the agencies of society which affect children, the home and the school exert the greatest and most pervasive influence. Parents and teachers are the most important influence during the crucial period in a child's life. Parents start the process of education and teachers continue it. It is therefore absolutely necessary that both the architects and the builders of the child's educational development cooperate to achieve the formation of responsible and well-adjusted school pupils.

In addition, parents, teachers and community leaders should find ways of helping Ghanaian students and adolescents in particular and Ghanaians in general, to develop self discipline which is not hinged on external pressure. Parents often have levels of aspirations and motivations quite inappropriate to the ability and interests of their children. The school through the teachers should provide the correct perspective and emphasis. Physical punishment is a feature of both the home and the school. Parents and teachers should meet to discuss the merits and demerits of this form of discipline and to decide on a common approach to their goal of character formation. The arguments for corporal punishment – that this is the only language they understand, that parents demand physical punishment, or that this is the method of the home which should be practised in the school for the sake of continuity are no longer valid.

The implication of the exclusive use of corporal punishment for the personality development of young Ghanaians should be obvious. Rather than produce young Ghanaians who are self-controlled, self-reliant and adjusted to society, many of the adolescents' behaviours are resorted to only by the fear of being caught and punished. This is in addition to the antagonism, violence and hatred that corporal punishment breeds among pupils. Teachers in the basic and secondary schools in Ghana should understand more fully the nature and origin of the needs that make children behave the way they do. They should be able to identify the needs expressed by particular children and help them to satisfy these needs in socially acceptable way. They mast try to trace the behaviour deprivation that leads to a need being manifested. Teachers can then attempt to remedy this behaviour deprivation.

Bandura (1991) suggests that children have a strong tendency to copy the behaviour of other people – especially people in positions of authority whom they like and respect. This implies that pupils are likely to be influenced either for good or ill – by the models of behaviour provided by teachers both in the classroom and elsewhere and by the model of parents at home. Negative models are likely to be provided by teachers starting lessons late and ending them early. If teachers react with violence to provocation and disruptiveness this may well encourage pupils to do the same. Similarly, if the teachers' won behaviour suggests that they disregard time keeping, they can scarcely expect good time keeping and attendance from pupils. As Boudiba (1997) puts it, true respect in school is not hat of the pupil for the teacher. It is the respect of the teacher, and through him, of the educational system and of the entire community for the child, the repository of all human potentialities.

A formidable strategy for improving on the level of discipline in our schools is cooperation between the home and school. As Galloway (1989) rightly sees it, cooperation implies willingness to consider the other person's point of view, and if necessary to change one' own practices. In other words, it implies joint planning. School administrators should stress the need for effective Parent-Teachers Association not just in terms of collecting money for the school funds but in terms of meaningful communications between parents and teachers.

Implications for Government:

In Ghana as in other developing countries, the infrastructural and physical facilities in many schools are inadequate both quantitatively and qualitatively. This has a negative psychological effect on the learner. The classrooms lack enough number of seats and tables for the students and where there are seating facilities, the classrooms are usually overcrowded. Overcrowding in the dormitories and the classrooms have been cited by Nacino-Brown et. AI (1989:158) as contributing to school – based causes of misbehaviour. This is not surprising to those who taught in Ghanaian Secondary schools between 1986 and 1991 (Tamakloe at. AI.1991). Degeneration of school facilities as a result of lack of renovation over the years, coupled with overcrowding, lowered academic and social standards in the secondary schools to some extent.

Students easily become restless and their interest as well as attention span become limited considerably. The psychological damage some of these schools have done to some of the students is tremendous in the sence that these students find it difficult to attend to their classroom activities adequately and the basic skills needed for successful living are not acquired. The psychological damage some of these schools have done to some of the students is tremendous in the

sense that these students find it difficult to attend to their classroom activities adequately and the basic skills needed for successful living are not acquired. The resultant effect is that such students find it difficult to adjust well in the society. Thus, there should be additional funds to schools for the provision and maintenance of essential physical facilities. As government funds are always limited, the private sector which is the immediate beneficiary of manpower and trained personnel, should come to the aid of schools. Voluntary organizations and Non Governmental Organizations (NGOs) could also assist.

Importantly, corporal punishment should be reasonable and not excessive, and such factors as the seriousness of pupil offence, the age, and physical condition of the pupil, and the force and attitude of the person administering the punishment should be considered. Stedman (1997) writes that emotional climates of effectively secondary schools are warm and accepting. These schools are happy places where administrators do not rigidly impose rules on teachers and students. Such schools are concerned about discipline. Edmonds (1995:45) reported that the more effective schools had the following characteristics: A shared sense of high expectations on the part of administrators and students; strong school ties with parents; a student-centred environment; specific educational goals; constant feedback to students on their rate of -progress; strong leadership by the head-teachers, but shared ownership policies and programes by the teachers; a safe school; and lots of infrastructural and instructional facilities. We see, then, that schooling is a tough job that cannot be accomplished by political posturing, sloganeering, or even authoritative commands.

If provisions in the educational policy to provide a comprehensive and diversified curricula can be well implemented, there would be less tension among pupils and students and they would be able to achieve their potentials, choose subjects which match their apptitudes and have psychological satisfaction that they are preparing themselves for a worthwhile profession or vocation for a living. Closely related to this is the need for guidance counsellors who would provide educational guidance in schools. The effective performance of their duties would reduce the tension which normally builds up within pupils and students.

Conclusion:

This article has attempted to explain that caning as a form of punishment for offending pupils is still allowed in Ghanaian schools; and the policy stipulates how and who should administer corporal punishment. If the cane is to be used at all, then it must be used for a corrective purpose and the modality for this has been adequately specified by the Ghana Education Service: caning is to be applied for certain degree of offences and the maximum number of strokes of the cane should be six. Importantly, this must be administered by the head of he school or his delegated representative. The number of strokes must be recorded in a book for the purpose. Some causes of indiscipline within the school system were identified. The Concerned Parents and Teachers Association standing against caning insists on prohibition of caning by law in line with the United Nations Convention on the Rights of the Child. The study found that corporal punishment is used in most schools and that majority of teachers who participated in the study were in favour of it and want to continue to use it; while 53 (26.5%) were not in support of it.

The need for both the architects and the builders of the child's educational development to cooperate to achieve the formation of a responsible and well adjusted school pupils has been stressed: approaches and strategies of achieving

should be the right balance between reward and punishment as both seem to have a place: An excessive use of punishment is likely to be discouraging and to lead to law morale. Finally, there is the need for policy reexamination from time to time as education is a dynamic process designed to achieve societal objectives.

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Technology for Eliminating Disabilities and Handicapping Conditions in The Ghanaian Society

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Abstract

The paper describes technology for eliminating disabilities and handicapping conditions in the Ghanaian society. Cerebral Spinal Meningitis (CSM), measles and the effect of 'bad injection' have been found to be common contributors to disabilities among persons with disabilities. In UCEW 48 students (34 males; 14 females) are persons with disabilities (PWDs) who are enrolled. Technologies in identification and remediation have been suggested to include gene therapy, genetic screening test, at a glance observation, dietary therapy and avoidance of Sexually Transmitted Diseases (STDs).

Introduction

Disability, handicap and other associated terminologies are used very often to explain physical or sensory defects. Some of these are defined.

Disability

Disability is defined as limitation, loss/restrictions in function, which can be total, partial as in behaviour, mental, physical, psychological and sensory (vision, hearing taste, touch, and feeling). Hence we have the common expressions such as, hearing disability and physical disability. Any of these two means, loss in hearing, vision, walking etc. to some extent in performance as compared to peers. A synonym of disability is impairment. Persons with any type of disability need rehabilitation or habilitation. Rehabilitation is training/restoration of skills lost. Habilitation is training given to enable the person acquire skills he has not been privileged to have.

Success of rehabilitation depends on
1) extent of problem mental capability of the person;
2) family support and collaboration of experts and family in rehabilitation;
3) resource service delivery;
4) clients' own co-operation,
5) Professional's attitudes and expertise (quick to solve problems; referrals made and team approach).

Handicap

This is an environmental restriction that impedes someone to perform as his peer. The person's own reaction to the disability, attitudes of others around him, and

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impediments in the environment have been identified as some of the agents that militate against the person to perform. A handicapped person can be found in all settings or situation. For instance, the physically disabled with defect in the lower limb, may not play football as his/her peers but in the classroom he/she may be the best. The hearing impaired with communication disorders may not hear and speak intelligibly (this depends on onset of the handicap and support given and what he/she wants) but if he/she is capable of expressing self in other modes such as sign language, writing drawing, etc. he/she is not handicapped. The word handicap can affect everyone in peculiar situations. For instance, the refugee, the non-Fante speaker in Fante land; the jobless, the child and mother with psychological problem (e.g. widow, widower, divorcee, and the hungry person etc) are all handicapped due to negative condition restricting their performance as others in their natural environment.

Other terminologies associated with physical disability conditions are progeria, Alzheiner's disease Ducheme Muscular Dystrophy Sexually Transmitted Diseases such as Herpes, Syphilis and gonorrhea and AIDS. Children with progeria (early aging) lose their hair, show wrinkles, experience arthritis and heart attacks by 5 or 6 years.

Alzheimer's disease in a kind of senility found wit children who inherit dominant mutation of genes. The brains of the Alzheimer's patients shrink and contain far greater number of tangles and knots, called senile plagues, than do the brains of normal older people (Postlethwait et al. 1991).

Ducheme Muscular Dystophy is a physical disability or impairment which is passed on to the male by a mother with a defective chromosome. Thus makes the sons muscle cells to die slowly so that by age 5, he cannot lift himself with ease. Other terms related to causing disabilities are the Sexually Transmitted Diseases (STDs) such as Herpes Genitals, Syphilis and Gonorrhea and Acquired Immune Deficiency Syndrome (AIDS). The STDs are all virus infections mostly transmitted sexually.

Herpes Genitalis

Is a virus infection of the genital area. The form of cold sores of fever blisters which break and form painful open sores that eventually heal. The virus can be for weeks, months or years.

If birth coincides with an active herpes phase in the mother, the new born can suffer death or damage to the brain liver, or other organs. There is no cure for herpes but antiviral drugs are available.

Syphilis and Gonorrhea

Both are caused by microorganisms and contracted through sexually activity and contracted through sexually activity with an infected person. Both can have wild initial symptoms of discharge or painless sore or no symptoms at all. Both can be treated with antibiotics. Failure to treat gonorrhea can result in severe reproductive organs or sterility.

Failure to treat syphilis can also result in wide spread damage to the heart, eyes brain or death to the unborn child.

Acquired Immune Deficiency Syndrome (AIDS)

Is defined as a virus infection which is mostly sexually transmitted in the same manner as Herpes Genitalis and syphilis and gonorrhea. AIDS patient has body weakness, loss of weight diarrhea, night sweat and general break down of the body's immune system to fight against disease. (The HIV/AIDS, 1994)

Literature Review

The existence of the disabled can be attributed to many causes from biological to environmental factors. Literature is replete with many of these. However, this paper deals with common causes related to the four known areas of vision, hearing mental, retardation and physical disabilities.

Common Causes

Common causes of disabilities can best be described according to

    a)   prenatal (before birth),

    b)   perinatal (during birth),

    c)   postnatal (after birth) as in infancy, childhood and adulthood.

Prenatal Causes

The Incompatibility factor such as father's blood being positive, mother's blood being negative and child's body being immature to fight the mother's body that generates antibodies.

Genetic Factors - Genetics: What it is?

It is the transmission of biological information (genes) from one generation to a following generation and of how information is expressed in an organism. Genetics can explain why some offspring are similar or very different to their parents and how certain traits are passed from parents to offspring. Genetics can enable us talk about genetic inheritance, defective genes, technology in genetic testing and genetic counseling (Postlethwait et al., 1991).

Parents have traits, for example, of tallness, shortness or height, colour of eyes, hair and Intelligence that they pass to their offspring. Likewise, they can equally pass defective genes such as sex linked genetic disorders. Some genes are dominant and others are recessive (Miller and Levine, 1995).

Dominant gene (factors) - are factors or traits that can hide the expression of another factor.

Recessive factors: are those whose expression could be masked. Both Dominant and Recessive genes can be phenotypically expressed which is the visual or physical expression of traits.

What is Chromosomes? Chromosomes are genetic containers of hereditary information. Chromosomes are minute, rod - shaped bodies that are present inside every cell of the body except for the sperm and egg cells. The chromosomes are in pairs and the child gets one each from mother and father. The human beings have 46 chromosomes comprising 23 pairs. The first 22 pairs are the autosomes and are identical in men and female. The last pair (23rd pair) is the sex chromosomes and is different because it differs in the two genders. In the male,

there are the X and Y chromosomes.   In the female there are two (XX) chromosomes. The chromosomes can be defected and passed on to the foetus.

Chromosomal Defects:

i)   Fragile X syndrome

ii)   Phenylketonuria

iii)   Wardenburg syndrome

iv)   Pendred's syndrome

v)   Hunter's syndrome

vi)   Muscular dystrophy (Northern and Downs, 1991).

Inherited Genetic Causes

Fragile X Syndrome.

This occurs when the chromosome bears an abnormal gene. The abnormality is seen as a break or fragile site. The fragile X syndrome affects the male since it is a defectives gene on the X chromosome and males have only one X and Y chromosome. So it becomes more susceptible since it has no back up for the affected X chromosome.

The child is born with either mild or profound mental retardation he may have a large head; prominent forehead; a tall face large ears and prominent chin (Miller and Levine, 1995).

Phenylketonuria

This is also a condition genetically inherited which involves the inability of the digestive system to break down the food nutrient called "phenylalanine" into the required substance called tyrosine.

If the body fails to absorb the phenylalanine the cumulating of this food nutrient becomes poisonous or toxic and begins to destroy some essential parts of the body and prevents normal brain development (Perkins, 1977).

Technology to Control Phenylketonuria

a)   Screening of the neonate is done to detect the problem.

b)   Baby is put on a special diet that does not contain phenylalanine

c)   When parents find out that one child has an inherited genetic factor and has mental retardation, they need genetic counsellor and genetic tests done on them.

 Wardenburg's Syndrome

This is an example of the dominant gene.

*Features:*Pigmentation of colour of hair and eyes are expressed phenotypically. For example in the white forelock of hair with blue eyes and sensorineural hearing loss/inner ear loss.

*Pendred's Syndrome***: This is an example of recessive gene type.

Features: Sensorineural hearing loss or hearing loss in with the inner ear: and deficiency of the thyroid gland.

Hunter's Syndrome:

X chromosome defect. Is an example of the sex linked recessive gene type. Person gets mental retardation, hearing loss or middle and inner ear together or the inner ear alone. Has respiratory problem (noisy breathing) and Eustachian tube dysfunction (Northern & Downs, 1991).

Ducheme Muscular Dystrophy

This is a recessive allele on the X Chromosome found in boys. Mother shows one normal X chromosome and one X is affected bearing the disease. However, she passes it to her sons and since they have no normal X they show the muscular dystrophy trait. The muscle cells of the affected boys slowly die and they cannot rise up easily, by age five (Postlethwait et. al. 1991).

Non-Inherited Genetic Causes

The genetic materials supplied by parents, are normal from the beginning. However during early stages of cell division there is problem with separation. Down's syndromes is the commonest. Others are trisomy 13, trisomy 18 etc.

Down's Syndrome (Trisomy 21)

The Down's Syndrome has chromosome Number 21 which has three copies instead of two. Similarly the 21 chromosomes may fail to separate.

Features: Small nose with flat bridge, slanted eyes with hearing or visual impairment. Others are heart defects and under-active thyroid (Miller and Levine, 1995).

Other Chromosomal Defects/Variations

a) Klinefelter Syndrome (XXY) - The effect is defect in sexual differentiation. For example the child is a male with very enlarged breasts having lower than average intelligence and he is sterile.

b) XXY abnormality in chromosome will be a male who is 6 feet tall with performance below average intelligence.

Virus infections

These comprise German measles (maternal Rubella) and Sexually Transmitted Diseases. Acute malnutrition, Fetal Alcohol Syndrome due to alcohol intake; maternal stress and ototoxic drugs can affect the foetus at prenatal stage. (Postlethwait et. al. 1991).

Perinatal and Postnatal Causes

Perinatal Causes

These are

a. Lack of oxygen due to prolong labour; and

b. Accidents during birth.

Postnatal Causes

Among the causal factors are heavy fall, slaps accidents and viral infection's such as measles, mumps poliomyelitis, acute malnutrition and maternal stress; cataract, pointed items that can pierce the eye.   Besides some physically disabled people attribute the orthopaedic situation to "bad injections" resulting into abscesses and later on "eating away" the muscles.

Ghana has 720,000 disabled persons ranging from 0-18 years.   Out of this number 3111 are in basic and tertiary institutions, (Kwawu, 1998).   However the major problems they face are employment, communication, social and inaccessibility to architectural facilities.   The fact remains that defective children are still being born and there must be a way out to eliminate or minimize the prevalence of disabilities among citizens.   It is with this background that this research is carried out to investigate therapeutic technologies to prevent disabilities in Ghana.   Research questions were formulated to address this issue.

Research Questions

1.   What are the common causes of disabilities in Ghana?
2.   What are the statistics of persons with disabilities and causes of their defects in UCEW?
3.   What technologies can be used to minimize or prevent disabilities in the Ghanaian society?

Methodology

The population for the study comprised only the disabled in UCEW.   Letters were written to the 15 departments of UCEW to supply information on statistics, type of disability, age, and sex of the disabled.   Interview schedule was the main instrumentation used.

Purposive sampling was used with 17 disabled students in the department of Special Education out of the 48 disabled in UCEW (Winneba, Kumasi and Mampong Campuses) The reason being that these students are reading special education and would feel more comfortable in talking about the impairment.   A structured interview schedule was used on the 17 interviewees of Special Education which comprised questions such as "when did the disability occur? What caused it?   What do you feel about it?   Can you use the impaired organ effectively?"

Validity and Reliability

To ensure validity, the interview questions were presented to experts in measurement and evaluation.   They were to determine whether the questions for the interview would assist in obtaining the information needed. The responses indicated appropriateness of the questions.   Besides, participants were interrogated using the same question hence eliciting the needed information. Thus the interview schedule was seen as valid and reliable.

Procedure for Data Collection

A structured interview procedure was used to elicit responses from the 17 students including two (2) staff members.   Questions were based on onset (when disability occurred), functions of the impaired organ; causal factors and the psychological aspect of the problem.

Data Analysis

A descriptive statistics was used to analyze the data using tables and bar graph.

Results

This section presents results obtained from persons with disabilities in UCEW as related to the research questions posed for this study.

Results showed that disability is common in every community. Interviews, and information from the 15 departments of the University College of Education of Winneba revealed that 48 disabled persons made up of 34 (70.83%) males and 14 (29.17%) females are schooling. Thirty eight – 38 - (79.17%) are orthopaedically disabled. Table 1 shows details of the statistics on type of disabilities in UCEW.

Categories of Disabilities in UCEW and Causes

The study revealed the following categories of disabilities:

- 38 (79.17%) are orthopaedic or have physical disability
- 8 (16.67%) are visually impaired
- 2 (4.17%) are hearing impaired.

Table 1: Statistics on disabilities in UCEW, as at 3rd May 2000.

S/N	Department	Total	M	F	Age Range	Level	Impairment
1	Special Education	17	8	9	31-43yrs	1, 2, 3, yrs (2 staff members)	7 orthopaedic 8 Visually Impaired 2 Hearing Impaired
2	Social Studies	3	3	-	30-40yrs	(2) 4yr B.Ed (1) PD B.Ed	Orthopaedic
3	English	2	2	-	33-48yrs	2 (1yr. B.Ed)	Orthpaedic
4	Psychology Education.	2	2	-	45-47yrs	PD1; PD2	Orthopaedic
5	Ghanaian Languages.	5	3	2	27-36yrs	4yr B.Ed	Orthopaedic
6	French	1	-	1	-	PD 2	Orthopaedic
7	Science	1	1	-	35yrs	4yr B.Ed	Orthopaedic
8	Health & Physical Education	-	-	-	-	-	No disabled person
9	Art	5	5	-	-	Dip 3 4 yr. B.Ed.	Orthopaedic
10	Home Economics	-	-	-	-	-	-
11	Mathematics	-	-	-	-	-	-
12	Music	-	-	-	-	-	-
13	Business	7	6	1	22-37yrs	1-2yr B.Ed	Orthopaedic
14	Technology	2	1	1	27-31yrs	1-2yr. B.Ed	"
15	Agriculture	3	3	-	29-36yrs	Dip 3, 1yr B.Ed	"
	Total	48	34	14			

Source Gadagbui (2000)

Orthopaedic Disability

Six (15.79%) of the 29 persons with orthopaedic problems attribute their disability to the negative impact of injection from early childhood between 1 year and 8 years. However one attributed it to fire injury when he was one week old after birth. One other attributed it to poliomyelitis at 3 years. The rest are unknown. Figure 1 shows the proportion of each category of disability in UCEW. It is clear from the graph in Figure 1 that the orthopaedic category constitutes the highest disability in UCEW.
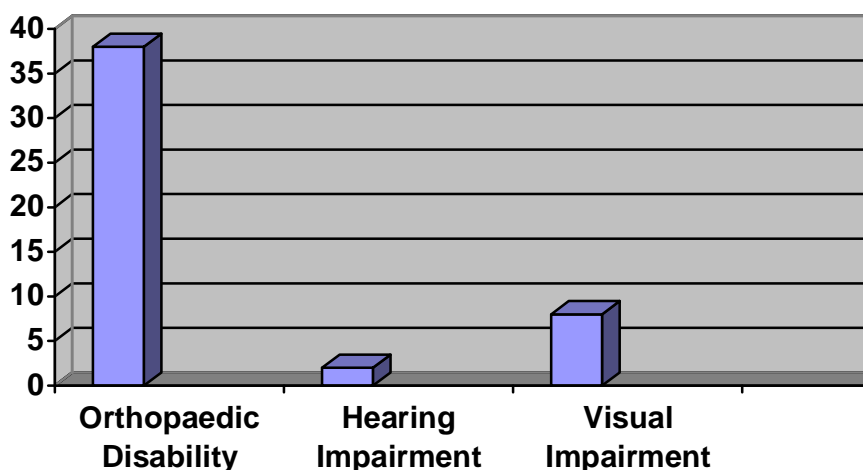
Figure 1   Category of Disabilities in UCEW

Hearing Impairment

The 2 (4.17%) hearing disabled stated that their hearing deficits were due to severe headache and to unknown causes, respectively.

Visual Impairment

The 8 (16.67%) visually impaired complained of either measles or cataract at the age of between 4 and 36. Onchocerciasis (river blindness) and unknown causes contribute to the rest of the visual problems. The fact remains that Cerebral Spinal Meningitis (CSM), measles, convulsion, maternal stress, and negative impact of injection can cause physical disability, epilepsy, mental retardation, learning disabilities, hearing impairment, visual impairment and deaf-blindness among children, if not death.

Many of them had either orthodox and/or herbal treatment. Besides, some participants felt that if their parents had been exposed to good medical care, early detection and being cautions of the havoc of fire they would have been normal. Psychologically, they become unhappy sometimes.

Discussion

The result of the study showed a range of causal factors including unknown causes. Nevertheless the fact remains that if there were effective technologies to prevent or minimize giving birth to disabled persons we would have fewer special schools with lesser number of such children. The result also implies that certain disabilities would have been avoided if preventive measures were put into place against fire injury, ignorance of parents in seeking orthodox medical assistance instead of relying on some impotent herbal treatment for cure. Nonetheless, there is the need to identify those technologies which are available in Ghana so as to lessen the population of persons with disabilities.

Available Technologies for Identification

In view of prevention, available technologies in use are:

At a glance technologies, avoiding Sexually Transmitted Diseases, Dietary Therapy Breastfeeding and immunization, treatment of iodine deficiency diseases (IDD) and avoiding heavy fall, slaps and knocking the head.

At a Glance

a)   Family History Family history can reveal genetic condition.

b)   Physical make up which show negative impact of the genetic change can reveal that a child is Down Syndrome. For instance, short neck, slanted eyes and flat bridged nose and webbed feet are some indicators.

Avoid Sexually Transmitted Diseases (STD'S)

There is the need to avoid Sexually Transmitted Diseases such as H erpes Genitalis Syphilis and Gonorrhea and Acquired Immune Deficiency Syndrome.

Prevention
a)   Stick to a simple sex partner
b)   Using condoms to prevent passing infection.
c)   Report pain during urination and in the pelvic bones; get tested regularly for STDs.
d)   Treat syphilis and gonorrhea
e)   There is no cure for herpes but antiviral drugs are available.

Dietary Therapy

Micro-Nutrient of Women and Girls

Women and girls are to reduce disabilities in children by use of Vitamin A, B, C, & D and also minerals such as iron (meat, liver, fish, poultry) and other protein rich foods, before, during, and after birth. Table 2 shows sources.

Table 2 – Sources of Vitamins A –D

Vitamin A	Vitamin B	Vitamin C	Vitamin D
▪ Yellow & red fruits eg. carrot, mango, pawpaw yellow sweet potato ▪ Red palm oil Green leafy vegetables (e.g. kotomle, "ademe;" "bokorbokor" "amatoga;)" dandelion ▪ Animal food (fish, liver, breastmilk, egg yolk and diary products).	▪ Whole grain, Cereals, Vegetables, Meats, Milk, Diary products, Fruits, bread	▪ Fruits, Mangoes, Banana, Guava, Pineapples, Oranges Etc. Supplement with Vitamin C	▪ Sunlight ▪ Plamoil ▪ Blue band magarine milk liver eggs

Source: Gadagbui, 2000

Trace Elements and supplements

Where there is a trace of deficiency of the vitamins and minerals, nutrition counselling is given for a treatment. For instance, if a child's urine analysis show lack of vitamins or minerals, supplement is given in syrup or tablet form. For example, Vitamin A is needed for growth and night vision and keeps the outer part of the eye moist and healthy. Lack of it causes dry eye which is Xerophthalmia that can lead to blindness. Vitamin B helps in mental functioning and lack of it causes learning difficulty and even spina bifida in neonates.

Vitamin C & D are necessary for strong bones. Lack of vitamins C & D cause physical abnormalities however over doses of Vitamin D can also cause, mental retardation, physical deformity or weakening of the bone called rickets. Lack of Vitamin D can cause increase in child mortality.

Iron is a numeral needed to carry the oxygen through the blood nevertheless iron deficiency is associated with an anemia and delays in mental and physical development and difficulty in learning.

Calcium builds healthy bones but low calcium gives poor bone formation. Similarly with protein deficiency results in giving birth to underweight babies with mental retardation and learning disabilities often birth to.

Breastfeeding

UNICEF Nutrition Adviser advised that infants are to suck breast excessively for 6 months without taking water and Ghana's Ministry of Health has also complied with this rule. This is a step to support physical and mental development. To ensure continued good growth babies are to be fed with energy-rich complementary foods (Child Health, CBR News 1997:4). This implies that a mother has to practise hygiene and feed well to have enough breast milk for the child.

Immunization (Ministry Health)

The Ministry of Health has immunization programmes for infants and young children and parents against the six killer diseases which are measles, diphtheria, tetanus, poliomyelitis, whooping cough and tuberculosis (TB). Measles cause hearing and/visual impairments (deaf blindness). Poliomyelitis results in physical disabilities.

Regulators of Metabolism – Treatment Of Deficiency of Iodine

The hypothalamus and pituitary together control the thyroid gland. These glands control growth, metabolic thermostat (body temperature) breakdown carbohydrate, and synthesis protein.

The thyroid gland needs iodine as a mineral to produce thyroid hormone called Thyroxine. Thyroxine is the most abundant thyroid hormone which essentially controls both metabolic, growth rates and stimulates the nervous system function.

However, for certain reasons the thyroid gland may be under active thus the pregnant woman with Iodine Deficiency Disorder (IDD) can give birth to a child with iodine deficiency. Lack of iodine can create conditions of

a) Cretinism

b) Goiter (Postlethwait et al. 1991:421)

Cretinism:

Is the condition whereby the thyroid gland under produces thyroxine and the person experiences low rates of protein synthesis and carbohydrate breakdown, which result is low body temperature and sluggishness. Cretinism comes with stunted growth and mental retardation. In the adult, the person gains weight easily and he is slow mentally (Slow learner).

Suggested Treatment: Thyroxine is administered by doctors.

Goiter

This is a large lump on the neck caused by an enlarged thyroid because there is low concentration of iodine and secretion of thyroxine is not much.

Suggested Treatment:
  i.   Iodized table salt can prevent goiters from forming
  ii.   Avoid Heavy Fall Slaps, Knocking the Head
  iii.   Children should be watched so that they do not fall and hit the head to cause head injury.
  iv.   Children can also avoid Learning Disabilities when prevented from eating lead (lead poisoning), chips of paints containing lead and food colour.

Applicable Suggestions

Gene Therapy

 Prenatal Diagnosis

Amniocentesis and chorionic villus sampling are mainly two ways to detect defective genes and to provide genetic counselling.

Amniocentesis

Geneticists started this method in 1960's to collect fetal cells from pregnant women who are over 35 years or have family histories of genetic disease . The physician inserts a needle through the mother's abdominal wall to the amniotic fluid (fluid surround the baby) to collect some of the fluid which contains the fetal skin cells. This is grown in the laboratory, and tested for defective chromosomes or genes (Samuels and Samuels, 1986).

Amniocentesis can only be done when the pregnancy is about 14 to 20 weeks. As a result the pregnant woman begins to listen to the movement of the foetus and may find it difficult emotionally to get it aborted if there is any massive genetic defects.

Chorionic Villus Sampling

The physician removes fetal cell from the developing placenta (organ that nourishes the foetus). The fetal chromosomes can be examined. By this method the cells are cultured and chromosomes are analyzed for genetic abnormalities (Postlethwait et al. 1991).

By Chorionic Villus Sampling,

▪   Sickle cell disease, and

- PKU (phenylketonuria) are identified)

Possible Solution: Pregnancy of defective gene can be terminated.

Genetic Screening

Genetic Screening test for sickle cell anaemia (Postlethwait, 1991:200)

Screen unborn foetuses, children and adults for various genetic conditions such as Progeria, Alzheimer's disease and Ducheme, muscular dystrophy.

Implications of Genetic Screening

a)   Some religious bodies will be against detailed fetal screening since it will result in more abortions because most genetic defects cannot be corrected or treated effectively.

b)   Employers may reject employing job seekers with heart disease, cancer or other condition.

c)   Industries will select only those who can withstand occupational explosives.

Minimizing Maternal Stress

The adrenal glands are found on top of our kidneys.   These glands enable our bodies to react quickly to threats, anger or danger. The adrenal glands secrete two similar hormones, which are Adrenaline (epinephrine) and Nonepinephrine

When the pregnant woman faces danger, hunger, anger, threats of separations, lack of affection from spouse, socio-economic problems, the nerves (pituitary gland) triggers the secretion of the hormones which make the heart, lungs and intestines react or give stress response. The reaction is the increase in the heart rate, breathing, and rise in the blood sugar such that the muscles receive more blood, oxygen and sugar that can make the person defend himself/herself or run away (Samuels and Samuels, 1986).

In case of the pregnant woman, every negative feeling, physically or psychologically, causes the hormones secretion and other chemicals release in the blood stream. These substances pass through the placenta wall and can produce mother's physical state in the foetus. Stress can cause increased foetal movement in the woman' cleft lip and palate during 7th -10th week of pregnancy including other physical deformities (Ambron 1981) Besides, the stressed nursing mother cannot serve as an active facilitator to the child who needs to develop his/her cognitive capabilities and other developments such as social, emotional and physical ones as his peers who naturally have the ideal environment.

Avoidance of Birth in Overaged and Underaged Women

Women over 35 years and teenage mothers have higher risk of giving birth to premature children with birth defects and suffer miscarriage. This is because in the young woman her reproductive system is not quite ready to function as much strain is put on her body. For the overaged woman her reproductive system may pass its most efficient functioning and her ova may deteriorate. (IEDE, 1996)

Summary

This paper deals with definitions of terms of disabilities, common causes and available technologies to prevent or minimize their prevalences. The fact remains that the management of special needs children in Ghana should not solely focus

on educational and vocational rehabilitation but also on the available technologies, such as, At a glance technologies, avoidance of sexually transmitted diseases (STDs), dietary therapy, breastfeeding, immunization and treatment of iodine deficiency diseases. In addition, the paper suggests gene therapy, genetic test and counseling avoiding maternal stress, and heavy fall as other technologies of preventing disabilities.

Recommendations

There is the need for nationwide screening for hearing, vision, mental retardation, learning disabilities and sickle cell anemia. Similarly, there is the need for team work of experts such as physiotherapist, audiologist, speech & language therapist, clinical psychologist and active family involvement. Finally, there needs to be attitude change towards persons with disabilities in terms of culture and beliefs about persons with disabilities and their professional integrity when employed. These can go with accessibility to public buildings having appropriate architectural designs, such as, ramps, and lifts.

In addition, attitude change of persons with disabilities towards their own impairment can make the society accept them and appreciate their values. For example, a change from begging to conscientious worker after rehabilitation programme or after professional training should be a positive sign.

There is the hope that when the National Policy on disability is accepted by parliament and legislated, the society will be educated to appreciate and realize their potentials and help in employing and integrating persons with disabilities. (National disability policy document June 2000).

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The Design of a Symbolic Programming System

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Abstract

> Current research activities in the field of symbolic or algebraic computation have produced some interesting results. However, some significant problems still remain. This paper discusses some aspects of the design of symbolic or algebraic system. It emphasizes the need to design such systems in way that will enable individual users to combine relevant modules or objects to produce tailor made systems.

Introduction

A great deal of research effort is being directed to issues relating to symbolic or algebraic computation. This is due to the perceived potentials of the symbolic programming techniques (SPT). Symbolic programming promotes the idea that formulas can be manipulated to generate new formulas. However, the same techniques involved with manipulating formulas can be used to create something much general. For example, the same ideas needed to support formulas can also be used to specify engineering structures, user interfaces, and more, in a form where they can be manipulated as formulas [Germundsson, 2001]. Thus SPT have found their use in areas involving the design, analysis, implementation and application of algebraic algorithms in science, technology and engineering. The most extensive use has occurred in the fields where algebraic calculations necessary are extremely tedious and time consuming, such as general relativity, celestial mechanics and quantum chromo dynamics [Davenport, Siret & Tournier, 1993]. There is a tremendous gain in time by carrying out such calculations on the computer.

A symbolic programming system should be equipped with the knowledge base to transform a given formula or an object (input) into another formula or object (output). For example, given the statement:

   y = 3+x-z+4*x

depending on the specified context or environment, the system may return

   y = 3 +5x-z   if x and z have no assigned values

or

   y = 3 + 2*a   if x and z have assigned values a and 3a respectively.

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However it will return y=5 if x and z are 1 and 3 respectively. To emphasis the goal of symbolic programming systems in contrast to the computation of numeric value by a numerical systems, we consider the example of solving a simultaneous equations. Given the equations:

$$3x + 5y - 2z = 15 \qquad (1)$$

$$-x + 6y + z = 25 \qquad (2)$$

$$5x + 2y + 3z = 45 \qquad (3)$$

In eliminating variable x from equations (2) and (3) we come up with the equations

$$(5+(3*6))y + (-2+(3*1))z = (15+(3*25)) \qquad (4)$$

$$(5+((-3/5)*2))y+(-2+(-3/5)*3)z = (15+(-3/5)*45) \qquad (5)$$

Given the appropriate context, the coefficients of y and z in equation 4 and 5 above can be simplified to real or rational numbers. However, it is important to note that the coefficients of x,y and z in the equations 1, 2 and 3 may be unassigned variables with unassigned values or some other formula or object, in which case the values may be held as expressions instead of real number entities.

The goal of a symbolic language therefore is to manipulate formulas or objects the same way human beings will do, with paper and pencil. An important gain of this approach is that it can lead to unified representation of objects manipulated in different applications, such as electrical, electronics, mechanical engineering and Science and Technology. With all objects represented in a uniform way, computing reduces to just one fundamental operation, which thus becomes that of transforming one expression into another. Such uniformity makes it is possible to mix different programming styles, just as it enables different domains of engineering and mathematics be combined. When you solve a differential equation using symbolic programming, you can give input just as on paper, without manual reduction to "computer friendly" form. Then you can get not only numerical results, but also closed form solutions, perhaps including parameters that can be further manipulated, that is, optimized, solved for, and so on. Programs can be manipulated symbolically and used, to generate C++ code. Notebook documents can be produced directly by programs, allowing automatic document generation. Communication of arbitrary structures with external programs becomes possible using expressions and such open protocols as MathLink. This permits symbolic programming interfaces with systems like Excel or Word; Java or Fortran code; and even parallel processing [Germundsson, 2000].

Some of the most popular symbolic programming systems existing today are Mathematica, Maple, Reduce, and Axiom. These systems are, however, independent systems lacking compatibility with each other and any other high-level language-programming environment. A better approach to the design of a symbolic programming system may be to provide a high level language to manipulate symbolic expressions.   This is the approach being employed in this paper.

Some Existing Systems

There have been a lot of efforts put into the commercial production of symbolic computation systems akin to that of numerical calculators. Systems such as

Mathematica, Maple, Axiom, etc., aim at being symbolic calculator of algebra. Some of these systems implement stand-alone algorithms, which accomplish some particular task. They attempt to resolve representation and abstraction problems for a large class of tasks and then provide algorithms, user-interfaces and links to other kinds of programs [Fateman, 2001].

Reduce is one of the oldest symbolic system, designed in late the 1960's. It is based on Portable standard Lisp. Operators are the most general objects available in Reduce. They are usually parameterized objects in a completely general way. Only the operator identifier is declared in an operator declaration. Operators represent mathematical operators or functions [Shi, and Steeb, 1998].

Axiom is a symbolic, numerical, and graphical system developed at the IBM Thomas J. Watson Research Center. It gives the user all foundation and algebra instruments necessary to develop a computer realization of sophisticated mathematical objects in exactly the way a mathematician would do it. Axiom emphasizes strict type checking where types are dynamic objects. They are created at run-time in response to user commands. Types in Axiom comprise both algebraic structures (e.g. polynomials, matrices and power series) and data structures (e.g. list, dictionaries and input files). Types can be combined in meaningful ways [Miola & Temperini, 1997].

Maple is a product of Waterloo Maple Software. It is designed specifically for algebraic or symbolic computation. Therefore there are many symbols with predefined meanings than the conventional programming languages. It is fairly rich in built-in data structures like tables, sets, lists and sequences. It also supports mathematical structures such as sums, products and equations. Procedures in Maple are intended to be used when adding new functionality instead of extensive facilities for modularity or data abstraction [Char, 1992].

Mathematica uses symbolic expressions to provide a very general representation of mathematical and other structures. The generality of symbolic expressions allows Mathematica to cover a wide variety of applications with fairly small number of methods from mathematics and computer science. Though the simplest way to use Mathematica is like a calculator. However, it can be used for far better range of calculations than calculator can [Wolfram, 1994].

Some Design Issues

It is desirable that an attempt be made to support symbolic computation along with other facilities provided in a conventional high-level programming language. The current trend is to have separate systems for conventional programming and symbolic (algebraic) computation. However, there are computations that may require the use of results got from a symbolic manipulation in a conventional programming setting. In such a situation, it becomes necessary to arrange for exchange of data between the symbolic programming system and the programming language. To avoid the problems that may arise in communication of data across different systems, it will be advantageous to incorporate into a conventional programming language symbolic manipulating abilities. In such a language, an expression will be evaluated numerically and an expression can then be symbolically indicated. Results from both types of computation can be used either way since they will have a uniform representation in the system.

Symbolic facilities are incorporated as part of the syntax of the language. At compilation time the compiler will either execute (like an interpreter) expressions indicated to be manipulated symbolically (i.e. algebraic manipulation) or in a case where it is directed (through language constructs) to "hold" will compile it to be executed at run time.   Expressions and other mathematical forms will be expressed in a program uniformly, both for numeric or symbolic manipulation. For example:

$$\sum_{i=1}^{n} x^i \qquad \text{can be represented as} \quad \text{sum(x**2,I, 1,n)}$$

$$\int 2x\,dx \qquad \text{Can be represented as In (2*x, x)}$$

Expressions or objects will be stored in the system as trees. However a tree representation can be displayed outwardly using different forms or fonts. It should also be possible to generate code for an expression in different languages, which can be exported to other part of the program.   For example language expression such as

   exp(x+ y*exp(x))

Can be displayed as $e^{x+y*e^{x}}$
Or can generate the following code

   $t_1 := x$

   $t_2 := \exp(t_1)$

   $t_3 := y*t_2$

   $t_4 := \exp(t_3)$

Input Specification

Some of the pitfalls of application of symbolic (algebraic) systems have been

highlighted in various literature [6,7]. For example, if functions $(\sqrt{x})^2$ and $\sqrt{x^2}$ are given to most of the current symbolic computation system, each will have the result of x. However these two functions are different because they are defined in two different domains. Consider the evaluation of

$$\sqrt{a^2 + b^2 - 2ab}$$

on some computer algebra systems will produce the result of a-b, whereas the result
$\pm$ (| a-b|) is more appropriate. Consider further the evaluation of
$$\int x^n dx \ .$$
The result of this integral will depend on the value of n. If n$\neq$ 1 then the integral will be given as

$$\frac{x^{n+1}}{n+1}$$

whereas, if n= -1 the integral will be given as

$$ln(x)$$

It is therefore apparent that designing a symbolic system based simply on rewriting rules will lead to serious problems. The application of rewriting rules must take place under valid constraints. Thus it will be required to specify valid domains or environments for objects.

Modularization

By the very nature of the application areas, symbolic manipulation systems should be designed in a modular form. Moreover, it should be possible to add new functions when required. Most of the current systems are huge; for example Axiom in 1990 required 16MB of RAM with 40 MB of disk space to swap files. A modular design whereby a particular user can build up his/her own system from the available modules will be much desired. Thus a particular user need not acquire modules that are not relevant to his/her application. This will reduce the size of the system that a user will need to load unto the memory. A conventional programming language hosting a symbolic manipulating system will permit users to specify relevant modules to use for their computation. Object-orientation is a particular good way of providing the modularization mentioned above. An object-oriented approach leads to flexibility, reusability and extensibility.

Conclusion

We suggest that conventional programming language can host symbolic or algebraic manipulating systems. Such a language should allow each program to specify modules or objects of a symbolic system that will be relevant to the program. An object-orientation approach can be used to realize the modularization, reusability and extensibility required in such a system.

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Resolving Some Critical Issues in Educational Research

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Abstract

Introduction

Research is a systematic attempt to provide answers to questions and solutions to problems. Educational research is a systematic approach to the solution of educational problems. Depending on the type of method or technique used, research can be classified into three major groups namely: Descriptive, Experimental and Quasi-experimental and depending on the type of data collected: Qualitative and Quantitative research.

Whatever methods or techniques or a combination of methods or techniques that are employed in a specific research and whatever its substantive focus, a number of practical, ethical, political and organizational problems arise that demand the researcher's attention. These problems pose serious issues that touch on all the areas and topics covered in educational research. These issues are the concerns, dilemmas and conflicts that arise over the proper way of conducting research. These issues have received attention for centuries, but still remain unresolved. Nevertheless research techniques would require a thorough knowledge of these issues and sensitize us to these concerns and seeks ways of ameliorating them as much as possible. In most cases we are only able to achieve trade-offs, or negotiation or limited control over these issues. Seldom can we resolve, balance or eliminate them.

Role Ambiguity

Most of the researchers sometimes become true participants' in the process they are interested in researching and this is called participant – observation. As a result of the involvement of the researcher, many problems and difficulties are likely to be encountered by the participant – researcher in becoming so involved in the research and "going native". The researchers are prone to become so involved in the process, which they are observing that the research task becomes impossible.

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In relation to teacher – conducted research or evaluation, some degree of involvement must of course be assumed, so the question is not 'How can going native be prevented? 'But' how can teachers detach themselves sufficiently to criticize what they have hitherto taken for granted? Since schools provide teachers with employment and therefore compel a degree of loyalty and commitment, this detachment needs to be emotional as well as intellectual. In sociological jargon, the task is articulated as a need to 'make the familiar strange!

Some of the difficulties of the participant role of the researcher are the dangers of over-involvement, the difficulty of replication, the expense of the enterprise, in terms of time and effort, and the problems of selective perception and data-saturation. There is also the problem of the justification of shrouding the research in secrecy (or covertness) and not making it public (overtness) which may make them behave in a way they may later regret. This constitutes a betrayal of trust and an invasion of personal privacy.

Some of the things in favour of the participant role in research are the ease of gaining entry into the setting under study, motivation and interest of contributing something to the system that have a professional responsibility. Thus their examination of practice is unlikely to be merely destructive; if shortcomings are revealed a natural response would be to seek remedies. Furthermore, sustained contact with the setting or school, its personal and its processes enables participants' researchers and evaluators to take advantage of spontaneous events and situations because they are on the spot. Such opportunities research as an investigative strategy exploits the researchers unique bibliography, life experience, and situational familiarity.

Ethics

Should you protect research subjects from the risk of being arrested simply because they were in a study? Should you compromise the standards of good research in order to keep a job? The researcher faces many dilemmas mostly ethics and must decide how to act. There are codes of ethics and other researchers also provide guidance but ethical conduct ultimately depends on the individual researcher.

There are many issues of ethics covered by the codes of ethics for researchers such as misconduct, research fraud, plagiarism, authority and power over subjects, protection of human subjects from physical harm, psychological stress or loss of self-esteem, legal harm, deception, coercion, informed consent, special populations (prisoners, students, children, military etc) and inequalities, privacy, anonymity, confidentiality, research interest and identify of sponsors and funding of research etc;

The central issue in the perverseness of ethical issues in the covert (closed) and overt techniques (open) in all forms of social and educational research involving the public 'right to know' over and against the individual's 'right to privacy'. The 'public' here refers to any group with a legitimate interest in what happens in educational research i.e. in schools, which are after all, public institutions. Such decisions are *historical, culture-bound* and are of *moral dilemmas.*

Historically, over the years most countries have evolved a liberal approach to the issue of public scrutiny of official decisions and research results. Again some countries have a longer history than others depending on their culture. Whereas the USA has Freedom of Information Acts long ago than Britain, it was the

implementation of the 1980 Education Act in England and Wales, which required schools to reveal both their pupil's examination results and their own curricular arrangements. It was this Educational Act that has brought practice in the UK somewhat closer to that of the USA. The moral dilemmas in practical terms usually involve deciding how to fulfill a responsibility to those private individuals from whom information has been sought, with a similar responsibility to provide an information service to the Community. Whether or not evaluation is explicitly judgment, it would probably be unrealistic to imagine that an evaluation can be conducted in a way that avoids hurting either individuals or groups of people. This is because simply making certain kinds of information public is almost guaranteed to show some individuals in an unfavourable light, so those engaged in research and evaluation need to be convinced that potential gain out weights present suffering.

In all, the key concepts and principles that should guide the researcher and evaluator when dealing with these ethical questions of publishing data and results are confidentiality, negotiation and accessibility and these forms the list of democratic principles of research and evaluation.

Several other ethnical issues also abound which pose dilemmas. One relates to portrayal of persons as a potentially fruitful source of evaluation data though their personal characteristics and biography reflect on particular individuals. Another moral dilemma concerns the use of information that the evaluation was not expected to reveal 'off the record information' about unprofessional activity or illegal activity might fall into this category e.g. In a research where theft or murder is discovered would be a test of credibility or betrayal of promises of confidentiality by the researcher. Should the researcher choose to do nothing about it or condone the activity which would be tantamount to dereliction of duty of betrayal of the confidence that has been established, he roles of the teacher – researcher in this wise appear to pull in opposite directions.

Acquisition of Skills

Teachers as researchers need some evaluative and research skills in carrying out research activities and these need to be built up on their existing skills. MacDonald (1978) suggests the incremental approach to the acquisition of research and evaluative skills and that the 'road to educational critique' may pass through several stages (from informal to formal) and takes several years to travel. He proposed three phases in the development of a rigorous approach to research and school evaluation. These are

- a descriptive phase which involves the collection of routine information.

- an anecdotal phase which represents a move to teachers' accounts of their own performance and the collection of critical incidents; and the

- phase of formal educational critique, which entails formalized procedures of research and deliberation.

The development of formal research techniques is important in the teacher-researcher.

Issues of Time

Teachers as researchers have full-time jobs and yet are expected to find time to engage in something that is rarely regarded as having the same priority as lesson

preparation or pupil assessment. Formal research and evaluation is seldom perceived as crucial to effective practice of teachers and teachers often fail to get started on any research activity. These difficulties are not confined to the teacher-researchers and evaluators, but university corridors are littered with research kites that never got off the ground.

There may be need to build in research-time and meeting schedules into the school Time-Table to ensure that research and evaluative tasks are given sufficient priority and much needed status. In addition, teachers should maximize their available time by identifying and plotting the peaks and troughs of their routine commitments throughout the school year and establish a rhythm which prevents additional commitments beings taken on at some periods but which allows extra work at others for instance. Summer Vacation. Also the setting of goals to be achieved within specific periods and that tasks are completed within a time frame or contract would encourage the acceptance of research and evaluation as a routine part of professional practice of teachers.

Issues of Organisation and Development

This refers to organizational structure to support and promote the research skills of the Teacher-researcher. The risk, time and energy associated with research needs to be offset by some prospect of advantage to the subjects, the researcher and the institution who have given time and energy.

Given the crucial importance of leadership and management a participatory style of research almost inevitably requires a participatory or open management style. Participation in decision-making is an important general principle in facilitating the process of change in research and evaluation and encouraging the teacher researcher to become personally and professionally involved in the formulation of policy. In research, collaborative efforts and consultative systems are good examples of participatory style, for example, Continuous Staff Conferences, Standing and ad-hoc committee, Senior Management teams, temporary and permanent study groups, team work, courses etc, Also the use of incentives and attractive career development would also motivate the researcher to better performance and dedication.

Issues of Politics

This relates to how powerful groups in society or the government shape research. Governments can limit, constrain or direct social and educational research both through legislation and by the allocation of research funds. The crucial-dilemmas remain as questions such as: What is the proper relationship between government or other powerful institutions and social and educational research? What is the balance between the value of a government overseeing Science for Society versus the value of free and autonomous research without political interference? Government and power groups in the society control and define data for research (gate-keepers to research data). They limit research due to influence of politicians, they limit research for national security and social ethnics and values; they fund and direct research, they influence publication of research and they also influence the implementation of research results.

Conclusion

There are many unresolved issues of educational research. Some of them have been discussed in this paper. Research needs to be conducted with a good deal of sensitivity and discretion. The truthfulness of knowledge produced by research and its use or misuse depends on individual researchers reflecting on their understanding and sensitivity to the unresolved issues.

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Relevance of Career Resource Centre in Enhancing Career Exploratory Behaviour of Adolescents

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Abstract

This theoretical paper examines the relevance of career centre as a career information strategy for enhancing the career exploratory behaviour of adolescents. The paper started by considering the purposes and uses of career resource centre, rationale for their uses in career exploration, organisation, location, resource components and a brief conclusion.

Introduction:

The need to enhance the career exploratory behaviour of adolescent has long been the major pre-occupation of vocational psychologists. In fact, the theories of Ginzberg, Ginsburg, Axelrad and Herman (1952), Super (1963, 1990) Tiedeman (1961 and Tiedeman and O'Hare (1963) vividly made it clear that career exploration is a dynamic factor that influences career choice behaviour of adolescent's. Berlyne (1965), Blustein (1990, 1992), Jordaan (1963, and Stumpt, Colarelli and Harthman (1985) conceptualised career exploration as those purposeful activities that are geared towards enhancing knowledge of the self and the external environment that fosters and influences career choice behaviour. In essence, career exploration focuses on helping the individual become aware of themselves, obtain knowledge about career and finally select an appropriate career choice and assist in decision making. In other words, career information is highly indispensable to career exploration.

Indeed, adolescents who are in transition from school to work or are exploring into the world of work need to be exposed to a variety of career information. The six major goals of career information as provided by Drier (1980) are: (a) it provides logical groupings of occupational opportunities; (b) it provides logical groupings of educational and training opportunities (c) it provides basic characteristics of specific jobs; (d) it specifies basic occupational and educational exploratory skills; (e) it helps determine relationships or personal values and interest to jobs and educational choices; and (f) it encourages the use of current information in career decision-making. Consequently, career information comes in a various of forms. It ranges from simple career talks, career trips and convention, career mentors to a more complex computer-based model, mobile career guidance services and career resource centres. Of all these forms, the career resource centre seems to provide an authentic and more comprehensive means of providing career

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information, especially for the adolescent that are in their exploratory stage of career development (Jordaan, 1963; Super 1990).

Accordingly, this paper will provide a brief overview on the purpose and use of career resource centre. A rationale for its use in enhancing the career exploration of adolescent and finally, suggestions for organizing, location and resource components of the centre.

Purpose and use of Career Resource Centre

Career resource centre is a major component of career guidance programmes. According to Zunker (1990), it is a centrally located centre that is stocked with career-related media and materials for the purpose of providing career information to the generality of people. In most cases, the materials are highly visible and attractive, such that they can appeal to people to make use of them. The centre can be used by individuals who are in their various phases of career decision making and are seeking information to narrow down their choices. Invariably, the centre is most suitable for adolescent whose stage of career development is analogous to Super's description of career exploratory stage of 15 - 25 years.

On a wider spectrum, the career resource centre can be use for the demonstration of various resource in the centre for a group of secondary school students searching for various careers in their subject areas or options. As counsellors must be acquainted with the content of the various source or career information, the centre could serve as an avenue to assist them in sorting, assembling and assimilating various career information that will meet the needs of their varying clientele attain their individualized career decision process. Other uses of career resource centre include (a) providing community and business experiences foe the entire community where it is sited; (b) providing constant inservice training and technical assistance to teachers, counsellors and other supervisory personnel, and to conduct in-depth study into changing labour market, write descriptions of local jobs and disseminate them to students, parents, counsellors and teachers.

Dittenhafer and Lewis (1973) gave other uses of career resource centre as:

1.   To collect, evaluate and disseminate accurate and relevant career information to the generality of people;

2.   To provide assistance to the centres clientele in locating, evaluating and using career information.

3.   To help students integrate self-knowledge with relevant career information by providing counselling services.

4.   To assist teachers in integrating information into the instructional activities to support students' career development.

5.   To assist parents and other community members in becoming active, concerned and understanding participants in career development of their children.

6.   To utilize community resources in fostering a better understanding of the relationship of education to work.

Rationale for use in Career exploration

In order to determine in what ways career resource can enhance career exploratory behaviour of adolescent, it seems appropriate to view it from the advantages to be derived from the use of the centre. Zunker (1990) noted that apart from the use of

career resource centre to facilitate a wide range of career-related activities, the centre could be a source of enhancing the career exploratory behaviour of adolescents because its central location provide the opportunity to systematically organize all career material into more efficient, cost-effective and workable unity, such that it will be of immense benefits for the adolescents to explore into and check the quality of career information they require.

Furthermore, since the centre offer a wide variety of materials and bring into focus all career related programmes offered by colleges and University, users especially adolescent will be able to make realistic career choice, acquire necessary decisional skills and general adjustment in making transition from school to the world of work.

Evidence abound to show that people exposed to career information are better adjusted in areas of life functioning other than just vocation (Williams, 1962; Williams & Hills 1962). As the career resource centre encourages a variety of adolescent from different institutions to participant in the use of the materials they will be able to share ideas, appreciate and be more informed about career options offered by other institutions. Finally, as an innovation, a well manned career resource centre can become a focal point for initiating the adolescents into new career education outlets.

Organization, Location and Resource Component

In most Africa countries, especially the West African sub-region, the use of career resource centre as an outlet for disseminating career information is relatively not in existence. Thus, it therefore become necessary to touch a little bit on the organizational procedures, location and component of this centre. Burnett (1977) offered the following suggestions as steps in organizing career resource centre: (a), access existing career - guidance service in the locality; (b) create an advisory committee; (c) determine the objectives of the centres, space and the budget needed to meet these objectives; (d) determine the individuals in the school and the community that will be actively involved in disseminating occupational and educational information, (e) locate and request for space, furniture and equipment for the centre, (f) develop methods of identifying and filing career-related materials; (g) collect all existing career-related materials, (h) establish operational procedures; (i) plan for periodic evaluations, and (j) and have a grand opening of the centre.

Ideally, the location of any career resource centre should be in an area that is exposed and have a high accessibility to its users. Within the school system for instance, Zunker (1990) argued that the resource centre should be located close to the counselling centre. The essence of this is that if students are accustomed to going to counselling centres for assistance, they may also take that opportunity to visit the career resource centre. Another explanation for the suggestion is that; the career resource centre activities can be easily incorporated into other services offered within the counselling centre and the counsellor who has the expertise can also oversee the activities of the resource centre.

Resource Components

Although, there is no hard and fast rule as to what should be contained in a career resource centre, Zunker (1990) suggested that the components of any career resource centre should provide specific career information relating to: occupational description occupational outlook projects, post secondary educational training information; military information, apprenticeship and internship information;

resource-persons file, information for special population and financial aid information.

Overall, Moir (1981) gave the major components of a career resource centre as (1) testing materials storage, (2) filing cabinet, (3) receptionist, (4) index and library catalogue, (5) library shelving (6) brochures and pamphlets, (7) reading room areas, (8) vocational files, (9) vocational biographies and job such materials (10) counsellor aids (11) work testing tables, (12) testing areas, (13) mobile career guidance unit and (14) student desks.

Conclusion

In an ongoing effort to enhance the career exploratory behaviour of adolescents through various career information strategies, career counsellors and others alike should take special note of the importance of career resource centre as an indispensable career information strategy. The general conclusion is to encourage the establishment of career resource centre as a way of enhancing the career exploratory behaviour of adolescents.

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Mentoring as a Way of Assisting Beginning Teachers in Higher Educational Institutions

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Abstract

Day in and day out Higher Educational Institutions do appoint new staff members. They come in with various background New Staff Members entering Higher Educational Institutions need to be introduced to their new working environment. This will let them feel as part of the system and make them more productive. This paper is therefore concern with what the mentoring process is suppose to be in Higher Educational Institutions.

Definition of the Concept Mentoring

There is general agreement in the literature on mentoring that the idea is not new and that it has a long history. At the same time it is also clear that no definite definition of the term exists (Stalker, 1994; Marshall, et al 1998: Ehrich, 1995).

Levinson's (1978) definition of mentoring seems to stand out as a landmark around which scholarly discussions on mentoring is based (Cullen and Luna, 1993: Ehrich, 1994; Quinlan, 1999; Samier, 2000). Levison (1978; 97) noted that a mentor relationship is "one of the most complex and developmentally *process one can* have in early adulthood". (in Ehrich, 1994; 13, emphasis added).

Fortunately, The understanding and definitions of the concept have moved on from this definition and now oscillates between definitions such as

> a complex interactive process occurring between individuals of differing level of experience and expertise which incorporates interpersonal and career development (Wunsch, 1993:353).

and that of Woodd (1997) which is

> the notion of one person giving advice, guidance, knowledge and support to another usually more junior person, and acting as a role model usually in the same organization (Woodd, 1997: 27).

From the above definitions, it is clear that mentoring is an activity, which takes place between two people with different levels of experience, knowledge and skills in the same profession or organization. One person is usually a newcomer to the profession or organization. The intention is that the interaction between the two

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would result in the newcomer acquiring the skills, knowledge and experience necessary to operate effectively in the professional environment.

Perceived Functions and Value of Mentoring

Mentoring has very distinct benefits for all the parties involved. The first beneficiary is the organization involved. Quinlan (1999) summaries this well by stating that mentoring "provides a way of passing on and preserving the traditions and norms of the organization, ensuring that new members contribute productively" (Quinlan 1999:32).

Mentees are the second group of beneficiaries who benefit from the process. Someone, who had experience of mentoring, is adamant about the value of mentoring. Maureen Wood (1997) cites support, advice and guidance as the benefits she derived from her mentoring experiences.

From a study by on mentoring in higher education the following were among the benefits, mentees mentioned as having obtained:

- access to information needed immediately for survival

- research assistance (reading and advice on grant applications/paper, assistance with methodology, writing of joint paper/grants) and

- the provision of advancement opportunities by mentors.

Stalker (1994) states that mentoring raises the visibility of newcomers in

the academic community. This may occur by way of the mentors' encouragement of the establishment of research careers by their mentees or the introduction of mentees into the formal and informal academic networks of the mentors.

Stalker (1994) also notes that a "major outcome of ideal mentoring concerns the mentees' enhanced understanding of their professional identity (within academe)". According to her, mentees will acquire "the practical, technical skills and formal scientific knowledge required in academe" (Stalker, 1994: 363). This she says is important because "mentees' survival is dependent on their ability to adapt to the (academic) environment".

Relationships are of the utmost importance in mentoring. Stalker (1994) asserts that

> a dimension of mentoring which is seen to be essential to the process concerns relationships – both structural and personal. These relationships define the connections through which interactions occur and outcomes are achieved".

Relationships also highlight the benefits of mentoring to mentors. There is widespread acknowledgement that mentoring relationships are reciprocal and that the mentor as well as the mentee derives specific outcomes from the relationship. Mentors, Stalker (1994) says, may become more creative because they would have mentees providing them with technical support or new ideas new knowledge as well as undertaking the more complex tasks', freeing them for 'more creative pursuits". They could also benefit from mentees' contacts, which may enhance their own reputations.

A Need for Mentoring in Higher Education

From the above discussion it is clear that mentoring can help new staff members to survive in their working environments.

Staff in higher education environments essentially requires access to information about the culture of the institution, which will impact on their careers. Wunsch (1993) gives an excellent overview of why mentoring is necessary in higher education. She emphasizes that entry survival needs, career development advancement needs and socio-psychological needs could be met through mentoring. These may include institutional information on services, benefits research, and the importance of review criteria, developing skills to cope with less than congenial relationships and ways of influencing departmental climates.

The value of experienced colleagues to assist new staff members cannot be emphasized enough. Wunsch (1993) however, says successful academic careers can be facilitated by colleague guides who can provide assistance, sound advice, and astute insight into the political processes of the institutions.

Mentoring can therefore play a positive role in the successful careers of new higher education staff.

State of Mentoring in Higher Education

Where mentoring exists in higher education, various forms of it invariably occur. Bagilhole (1994) for example informs us that a good deal of informal helping among academics do occur (Bagilhole, 1994:25). Marshall et al (1998) support this statement by emphasizing that mentoring in academia has usually occurred informally when senior academics take an interest colleagues who are at an early career stage, and take on the role of adviser and supporter, often based around shared research interests".

We can take a lot form the above statements. Looking at it, one can say that mentoring does occur in higher education and that reason everything is therefore fine. But the reality belies this. Ehrich (1994) describes traditional mentorship as elitist and individualistic. She notes that traditional mentorship has always been a highly selective process, which is not equally available to all individuals who are desirous of a mentor relationship.

Similarly, Hackney and Bock (2000) see mentoring as an exclusive process.

The Need for Mentoring for New Staff in Higher Education Institutions

In higher institutions mentoring is necessary for new staff for a number of reasons.

First, higher institution is still a very dynamic environment, one with dominant values and cultures. New staff members in general tend to feel out of place in this new environment.

They feel loneliness and seem to be rejected by older colleagues in the profession.

This can be described as both intellectually and socially isolating. This makes new staff members have greater difficulty in obtaining resources to support scholarly and administrative activities required for the growth of the institution.

There are isolation pressures, workload imbalance, stressful relations with colleagues and departmental heads.

Most administrators and senior members do not share their knowledge or think to induct or mentor new staff. The result of this is worse career growth of their professional development.

In this environment, therefore new staff needs support and informal mentoring.

Mentoring in Higher Institutions will introduce mentees to powerful community and professional networks and include them in more extensive circles.

Secondly, although mentoring does occur in some institutions in Ghana and exclusive process. Most senior academics and administrators are consultants therefore have less time to mentor less experience colleagues.

For effective work output of new staff there is therefore a formal mentoring system where the mentors could be chosen to match interests, experience and personal circumstances. They should be made to understand the importance of mentoring institutional resource and the organizational culture in existence.

Formalising a Mentoring Scheme

Mentoring as a meter of fact has a place in higher institutions but for it to have real impact, it has to be formalized or institutionalized.

Conclusion

We could see from this paper that the concept of mentoring is a useful process in supporting newcomers into Higher Institutions. This can be most effective when it is formalized. To do this there is the need for a policy statement on mentoring by all Higher Institutions in Ghana. A mentoring Programme needs to be developed in which contracts between the participants could be drawn. Mentoring is very helpful in meeting the needs of new staff. This can be very effective when formalized.

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Who is an Educated Person?

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Abstract

This article reports the results of a survey conducted using 300 first year B.Ed. students in the University College of Education of Winneba, (UCEW). The study sought to find out characteristics of an educated person. Like what exists in some existing literature, the group rated literacy and numeracy, cultural awareness and intelligence among the essential characteristics. It was noted that the characteristics of an educated person is a function of place, time and value system in a society and that experience is the hallmark of every educated person.

All over the world people have different views about who an educated person is. It is clear that every society, whether simple or complex, has its own system of educating its members. The goal of education and the method of approach may, however vary from place to place, nation to nation, people to people and time to time. It should also be noted that things like history, literature, traditions, beliefs, folktales, geography and other factors influence the goals and methods of education. This explains why the concept of the educated person varies from place to place. In ancient Greece, the educated person was one who was mentally and physically well balanced. The Romans on their part placed emphasis on oratory and military might. In England during the middle ages the knight, the Lord and the peasant were considered good examples of a well-educated order. In France the scholar was the hallmark of excellence. In Germany it was the patriot, and in pre-colonial Africa generally it was the warrior, the hunter, the nobleman, the man of character or anyone who combined two or all of the above qualities with specific skills.

For some people, being educated implies getting through school, college or university and getting a certificate, Diploma or a Degree. It should be pointed out that this position represents quite a wrong notion of education. The mere possession of a certificate does not necessary make one educated. The misleading conception of education as being synonymous with formal schooling led the colonialist to suggest that Africa had no education. It is worthy to note that education is more than schooling and that there are other agencies of education like the home, the extended family, the peer group, the mass media, religious bodies and others. We should be constantly reminded that the process of education as schooling is therefore a narrow focus of education. This is so because education may be possible in the absence of schooling. If this viewpoint is disregarded it will mean that our compatriots who have not attended school are not educated. This is obviously fallacious because there are other agencies of education apart from the school namely the home, the peer group church/mosque and others.

Titus and Smith (1974) have identified the following characteristics of an educated person, which may be useful for us. These are:

i.   an educated person should know at least one field with some thoroughness.

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ii.   an educated person should be able to communicate with others. He/she should be able to speak and write one's native language with a high degree of proficiency.

iii.   an educated person should be able to live in a changing world and to entertain new ideas.

iv.   getting along with others or living co-operatively with other individuals in a group.

v.   entertaining oneself or developing a rich inner life and a wide range of appreciation and inner controls.

vi.   having sensitivity to the larger spiritual order of which the human being is a part.

From this list, it is clear that an educated person should, among others be knowledgeable adaptable, co-operative, religious and above all be able to communicate effectively.

It can be inferred from the above characteristics that an educated person is not necessarily one who has stayed in school for a specified number of years but anyone who satisfies Titus' (1974) criteria (i. – vi.) above.

Carr, cited in Taiwo (1969), sees an educated person as basically an experienced one. This view of education as experience, is also shared by Dewey (1916). To Dewey (1916) education is the 'Continuous reconstruction or reorganisation of experience which adds to the meaning of experience, and which increases the ability to direct the course of subsequent experience'. This quotation gives credence to an Akan maxim that says, "Experience is the mother of knowledge". Experience is very crucial in the life of every educated person, whether literate or illiterate because it constitutes the foundation for further learning to take place.

Three hundred B.Ed first year students reading Ghanaian Languages at UCEW in the 1999/2000 academic year were asked to identify the characteristics of an educated person. The objective of the study was to find out the perceptions of students on who an educated person is. The intent was to compare it with some existing documented literature.

A sample of three hundred first year students were selected from the first year B.Ed. student population of UCEW (Winneba Campus) which is about two thousand. The students were stratified into eleven course groups. A random sampling technique was applied with emphasis on purposive sampling. The selection of the Ghanaian language class through purposive sampling is unique in the sense that almost all the major Ghanaian language groups are represented.

This presupposes that the respondents are selected from all the regions in Ghana. The survey method was adopted for the study. To ensure the validity and reliability, the instrument used was pretested by using about fifty students reading Ghanaian languages in the second year.

The characteristics of an educated person identified are shown in Table 1. These characteristics were weighted 10 for the most important, 9 for the next in importance, and so on, to 1 for the least important.

Table 1. *Rating of Characteristics According to How Important They Are in an Educated Person's Life and Career*

	Characteristics		Students' Mean Rating of Characteristics	Percentage Rating Characteristic as Highest
i.	Literacy and Numeracy	A school person-someone who is literate and numerate. This means the person can read, write and count.	8.6	50
ii.	Problem Solving	A problem-solver – one who can use the knowledge he has acquired to solve problems through critical thinking.	7.3	5
iii.	Adaptability	One who is adaptable – one who can adapt to any environment.	6.9	5
iv.	Cultural Awareness	One who is well vexed in the cultural background and can conserve and transmit it.	7.9	50
v.	Intelligence	One who is intelligent – this helps him/her to become a consultant and an advisor, especially in the rural areas.	7.4	10
vi.	Responsible	One who can take responsible decisions. This helps him/her to become a good manager.	3.5	5
vii.	Resourceful	One who can make good decisions.	3.3	5
viii	Foresightedness	One who has the foresight about events that will happen in future.	2.7	2
ix.	Eloquence	One who can articulate his thoughts convincingly	6.8	6
x.	Being Non-Tribalistic	One who is non-tribalistic – after being educated becomes nationally – inclined rather than being confined to his tribe or community only.	2.1	2

The students were asked to rank the characteristics listed (i.e. i. – x.) according to how important they are in an educated person's life and career. The mean ratings obtained for each characteristic was computed, and the proportion of students rating a particular characteristic as highest (i.e. weighted it as 10) were also obtained. The results are presented in Table 1.

It is clear from the table that students rated literacy and numeracy highest with a mean rank of 8.6. 50 percent of the students ranked this characteristic as the most important in an educated person's life and career. Next in importance was cultural awareness. It had a mean rank of 7.9 but was selected by only 10 per cent of the students as the most important. Intelligence had a mean rank 7.4, and was also selected by only 10 per cent of the students as the most important. The mean ranks obtained on the remaining characteristics eloquence, problem solving, adaptability, responsibility, resourcefulness, foresightedness and being non-tribalistic can be seen in the table.

Some of the characteristics ranked as very important by the three hundred (B.Ed) students tallied with that of Smith (1974). These were adaptability, knowledgeability, cultural awareness and ability to communicate.

Other characteristics like being non-tribalistic, being responsible and resourceful were not contained explicitly in the list identified by Smith (1974). Most of these criteria identified by Smith 1974 and the B.Ed students reading Ghanaian Languages in the 1999/2000 academic year corroborated the views of Fafunwa (1974) on the aims and objectives of traditional education. For Fafunwa (1974), the ultimate goal of traditional education is to produce an individual who is honest, respectful, skilled, co-operative and who conforms to the social order of the day.

It is clear that the aims and objectives of traditional education and that of formal education are not radically different. They are all geared towards the production of a person with an all-embracing personality who is adaptable, resourceful, sociable, knowledgeable useful and above all God fearing. A question that arises is that are schools fulfilling these objectives? Many people are disillusioned about the efficacy of the school system to produce scholars who can meet the challenges of our society. It should be pointed out that it is not the duty of the school to do this alone. Other agencies of education like the family, the church/mosque and mass media are expected to play complementary roles.

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Demand and Supply of Basic School Teachers in Ghana

MEREKU[9], K. D.

Abstract

This paper examines the demand for, and the supply of, Basic School teachers in Ghana for trends that are likely to influence plans currently underway to improve the nation's teacher education system. The Ghana Education Service (GES), which is responsible for the recruitment, training and placement, of all categories of teachers at the basic education level, employs over 100,000 teachers, several of whom are untrained. According to the recent Education Forum report, out of the 101,417 teachers that were teaching in basic schools in the country in 1998, 17,806 of them were not trained. Besides, while the average pupil enrollment per primary school rose from 232 in 1988 to 256 in 1998, the number of trained teachers per school dropped from 6.8 in 1988 to 5.2 in 1998. Also while the initial teacher training (ITT) colleges turned out in all 60051 teachers between 1989 and 1999 to join the 59648 trained teachers that were in school in 1988, the number of trained teachers dropped by 36088. The decline in teacher supply in the last decade was found to be due largely to an increase in teacher wastage rate due to study leave without return, which reached an average as high as 3 per cent per annum as against the 1 per cent per annum projected for the decade.

Introduction

For the purpose of the analyses done and discussed in this paper, it is necessary to clarify the terms teacher supply and demand.

Teacher Demand

Demand for teachers however, as explained by Zabalza, Turnbull and Williams (1979), cannot be easily and adequately defined as the demand for other types of labour required in industry. In this paper, the term demand for teachers' is simply defined as the number of qualified and trained teachers necessary to produce a certain specified output from an educational system. In other words, without teachers of a certain number and description, the output targets of an educational system cannot be achieved.

Teacher Supply

To be able to estimate demand for teachers, clarification is also required on who is to be considered as a teacher. In this regard, the UNESCO definition, quoted in Zabalza (1985), considers the incumbent as

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a person directly engaged in instructing a group of pupils (students). Heads of educational institutions, supervisory and other personnel should be counted as teachers only when they have regular teaching functions (UNESCO, 1958).

Teacher supply may therefore be defined in its broadest sense to mean the number of people serving as teachers for a given year. These are made up of those who enter the profession during that year, and those who having entered before, remained in the profession during that year Zabalza, Turnbull and Williams (1979).

Demand for Basic School Teachers in Ghana

Historically, the demand for basic school teachers in Ghana is very high. Some of the indicators of the high teacher demand in the last four decades considered in this paper are:

- the substantial number of untrained teachers that have taught at the basic education;
- the rate at which the number of primary and middle/JSS schools have increased; and
- the increasing realisation that the Certificate 'A' qualification held by the majority of trained teachers can not sufficiently meet the changing demands of the educational system.

High Rate of Untrained Teachers

In 1956 the proportion of trained teacher in the assisted primary and middle schools constituted only 35.3 and 84.6 percent respectively of the total number of teachers (Foster, 1965). But as a result of post-independence educational reforms, Foster (1965) observed that these proportions rose to 46.2 % and 91.2 % before the nation gained its republican status in 1960. Almost a decade later, Ghana celebrated her second republic in 1969. Between these two periods, the number of untrained teachers rose from approximately 7000 which constituted 33% of the total teaching force (WCOTP, 1963) to about 25000 which was roughly about 53% of the total teaching manpower (GMOEC, 1972). By 1979, two decades after the country's first republic, the proportion of untrained teachers remained significantly unchanged. The number of untrained teachers came roughly to 26000 constituting approximately 36% of the total teaching force (GES, 1980).

At the outset of the educational reforms, which began in 1987, the situation had become worse. Data presented in the recent Education Forum Report indicated that in the 1987/88 academic year the number of untrained teachers in primary and junior secondary schools were 27849 and 10423 constituting 43% and 32% respectively (GMOE, 1999). However, analysis of the data presented by the same source (GMOE, 1999) indicated that the first ten years of the educational reforms saw a dramatic improvement in the proportion of untrained teachers teaching in the nation's basic schools. That is, by the 1997/98 academic year the number of untrained teachers in primary and junior secondary schools had reduced to 12725 and 5081 constituting 20% and 13% respectively.
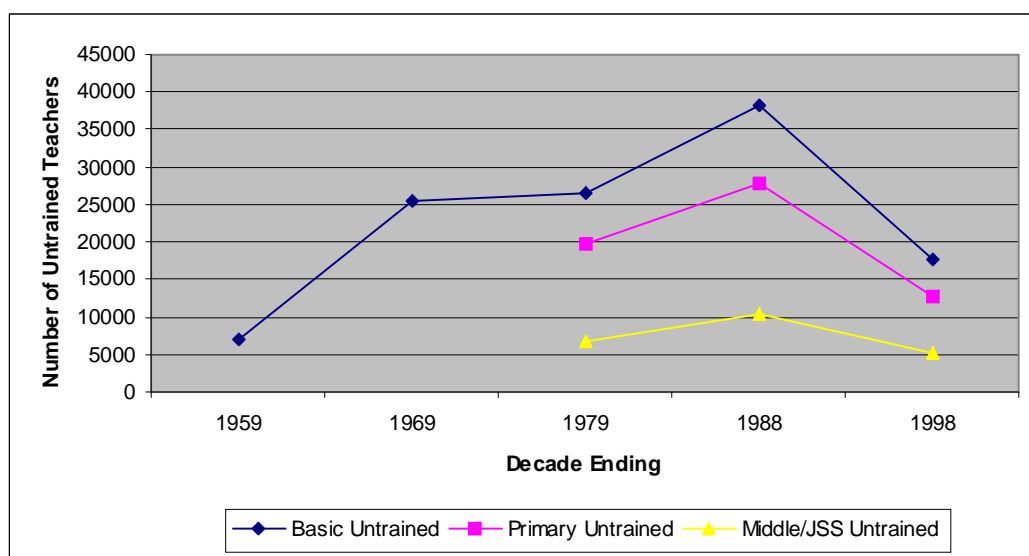
Table 1 is a summary of the situation described above with respect to the proportions of untrained teachers engaged in teaching at the basic education level in the last four decades.

Table 1   Distribution of Untrained Teachers in Basic Education by Year

Year	Primary	Middle/JSS	Total Basic	Basic Trained	Basic Untrained	Percentage Untrained
1959			21200	14200	7000	33.0
1969	36317	11563	47880	22505	25375	53.0
1979	48397	24329	72726	46248	26478	36.4
1988	65305	32615	97920	59648	38272	39.1
1998	63689	37728	101417	83611	17806	17.6

[Source: Foster (1965), WCOTP (1963), GMOEC (1972), GES, (1980); Asiamah & Pandit (1988), GMOE (1999)]

Even though efforts were made to reduce the proportion of untrained teachers in basic education during the period under review, such efforts were more marked at the Middle/JSS level than the primary.   Figure 1, which is a graphic representation of how the untrained teacher situation had been resolved over the decades, indicates improvements did not only begin to occur in the last decade but also the improvements made over the period were more marked at the Middle/JSS level.

Figure 1   Number of Untrained Teachers at Primary, Middle/JSS and Basic

[Source: Foster (1965), WCOTP (1963), GMOEC (1972), GES, (1980); Asiamah & Pandit (1988), GMOE (1999)]

Increase in Enrollments

Another indicator of the high teacher demand is the steady rise in enrollments. As a result of the massive post-independence developments embarked upon by successive governments to improve education, health and social services, there has been a rapid growth in population in the last four decades. According to a World Bank source, the population of school-going age children increased steadily at a rate of 2.6 per cent per annum in the first two decades after independence. The source also indicated that the number of school-going age children was growing more rapidly at a rate of 5.3 per cent during that period and predicted that the number of school-going age children in school would rise steadily to about 3.5% by 2000 (The World Bank, 1988).

It is important to reckon the demographic pattern because of its direct relationship with the school-age population and the population of children reaching school-going age. The 'Ministry of Education Report 1968-71' indicated that the population of children reaching school-going age enrolled into primary class one, after the enactment of the universal, compulsory, ten-year basic education policy in 1961, averaged approximately 25000 for the latter part of the 1960s and the early 1970s (GMOEC, 1972:18). By 1979, Primary 1 enrollments had reached 400000 (GES, 1980). That is, intake increased by 10 fold in 1979 and since then there have been a steady rise in gross intake rates as can be seen in Table 2.

The steady increase in population rate and the improved intake rates led to the establishment of new schools and expansion of existing ones. Table 3 presents a summary of the population of school-age children in school and the number schools that were available in the last four decades.

Table 2   Intake of Children of School-Going Age To Primary Class 1: 1978 to 1998

Year	Population of Children of School-Going Age (Six-year olds)	Intake of Children to Primary Class One (Admissions)	Gross Intake Rate
1978/79	409080	286139	69.94
1987/88	406306	347196	85.45
1997/98	582223	457229	78.3

Table 3   Population of Children of School-going-age in School and Number Schools by Year

Year	Population of School-age Children (6-14 year Olds)	Number of School-age Children (6-14 year Olds) in School	Number of Primary Schools	Number of Middle/JS Schools	Proportion of School-age Children (6-14 year Olds) in School	Number of Trained Teachers per basic school
1960	1559740	630280			40.4 %	
1969		1397026	7008	3546		2.1
1979		1784734				
1988	3174500	2287168	9561	5260	72.0 %	4.0
1998	4465538	3043930	12326	6020	68.2 %	4.5

[Source: Foster (1965), GMOEC (1972), GES, (1980); Asiamah & Pandit (1988), GMOE (1999)]

The implication of the rapid expansion in enrollment is that schools required more and more teachers each year. But in the last four decades, the number of trained teachers increased from about 23000 to nearly 84000. This only raised the number of trained teachers to a basic school from 2.1 in 1960 to just 4.6 in 1998. Since each primary school require at least six trained teachers for effective functioning, it can be argued that there has since independence been shortage of trained teachers in our basic schools. One reason for the shortage is that the educational system has been expanding at a faster rate than the rate at which trained teachers are being produced or supplied for schools.

The Increasing Realisation that Certificate 'A' Qualifications Need Upgrading

In Ghana, the qualification of most trained basic school teachers is the Teacher's Certificate 'A'. This is obtained after going through an Initial Teacher Training (ITT) programme in a teacher training college. In their international study on the 'Education of primary and secondary teachers', Gimeno and Ibanez (1981) classified such colleges as 'secondary level' ITT colleges. The programmes offered by these training colleges lead to 'certificates in teaching', which they described as equivalent to School Certificate in Secondary Education (or GCE 'O" Level) qualification. Thus the academic qualifications of the majority of teachers in basic schools is low.

In spite of their low qualifications, teachers after completing their training receive very little in-service education and training (INSET). Even in places where these have been organised, the participants did not take it seriously because they counted very little towards the upgrading or promotion of the teacher (Mereku, 1995).

As a result of their low academic qualifications and the lack of in-service education, the social status of these teachers has sunk very low. Even though other factors like the social origins of teachers, the size of the teaching force, and the teacher's relationship with clients, also account for their low status, the influence of their low academic qualifications and the lack of opportunities for their further education and upgrading is considerable.

But the academic qualifications of teachers are everywhere considerably higher than most other occupations and higher than the social service occupations with which they might be compared like nurses, agricultural extension officers, sanitation officers, etc.   This however not the case today with the Ghanaian Certificate "A" teacher. As a result of improvements in the educational system, the qualification of the social service occupations has risen above that of most teachers. The qualification of most teachers today as compared to other workers in the communities in which they leave is low. This was not the case some two or three decades ago, where many communities the teacher was the only or the most schooled (educated) worker.   It can be argued that the effect of teachers low academic qualifications on their social status and its consequences on their authority in both the classroom and community is one of the factors that account for the poor pupil performance in most of the nation's schools today.

The few primary teachers who achieve some development while in service are the ambitious and intellectually capable ones who pursue academic studies in universities, university colleges, polytechnics, and advanced colleges of education. These teachers do not usually go back to the primary or basic schools after obtaining their diplomas or degrees. This is largely because the further education programmes in most of these institutions are not tailored to the needs of pupils studying in primary or basic schools.   The result is that most teachers who complete their further education programmes in these institutions prefer to take up more prestigious teaching appointments in secondary schools and training colleges or are posted there by the GES with the explanation that their services are most needed at these levels.

Supply of Basic School Teachers in Ghana

Entrants to Teaching

Entrants to teaching at the basic education level are largely products of initial teacher training colleges. The decade of the 1960s saw a very rapid expansion in teaching manpower in primary and middle schools.   This development was necessitated by the universal, compulsory education policy of the government of the first republic. Beside the large numbers of small training colleges that were established all over the country, the expansion was the result of crash schemes orgainised to recruit and give potential primary teachers a six – week emergency training (McWilliam and Kwamena-Poh, 1978).

The output of trained teachers almost doubled towards the end of the 1960s. The output of trained teachers began to make a considerable difference in the percentage of untrained teachers in the primary schools. Hanson (1971) recorded a fall in the number of pupils per trained teachers from a high level of 1 : 80 several years ago to 1 : 47 in 1970/71. This had compelled the government of the second republic to initiate a policy to consolidate the initial teacher training programme by curtailing the output of trained teachers to avoid over production from the mid 1970s (MOEC, 1972:39). Hanson (1971:47) observed that "the development led to the setting of a new target of 3200 trained teachers for each year from 1972". But as a result of slums of the late 1970s and early 1980s, the target of 3200 set for the 1970s could hardly be met. In 1979 and 1980, the number of trainees in their final year in colleges totaled 2768 and 2703 respectively (GES, 1980).

Besides the shortfall in supply, there was mass exodus of teachers to Nigeria and other neighboring countries during this period. The exodus led to a drastic drop in the supply of trained teachers. That is, the proportion of trained teacher, which rose to about 64% by 1979, had declined to nearly 50% before the educational reforms were initiated in 1987. Asiamah and Pandit (1988) indicated that the number of trained teachers in primary schools dropped to 51.9% in 1986.

In the face of limited financial resources, the Ministry of Education introduced the Modular Teacher Training programme in the 1982/83 academic year to augment the supply situation. It was an attempt to produce teachers at minimum cost and to increase the supply of teachers through a new scheme by which teachers were trained partly on the job. The Modular programme led to massive increase in Training College enrollments raising the proportion of trained teachers in basic schools to about 60% by 1988 (see Table 5).

In 1990 all middle schools in the country were completely phased out as the JSS system reached its third year phase. To this effect, the reform created virtually a legion of redundancies as the 4-year Certificate 'A' qualification held by the majority of middle school teachers was considered inadequate for the increased curriculum demands of the JSS system. During this period a bulk of the post-secondary 3-year certificate 'A' trained teachers at the primary school level were transferred to fill the new posts at the junior secondary schools. The redundant middle school teachers were transferred to fill the vacant posts created at the primary level. The transformation of the middle schools into the junior secondary system did not lead to any significant improvement in the supply of teachers. It resulted rather in the internal mobility of teachers from one level of basic education to another.

Teacher supply (or the number of people that were teaching) in basic schools toward the end of each of the last four decades is presented in Table 4.

Table 4   Supply of Trained Teachers in Basic Education By Year

Year	Primary	Middle/JSS	Total Basic	Basic Trained	Basic Untrained	Percentage Trained
1959			21200	14200	7000	67.0
1969	36317	11563	47880	22505	25375	47.0
1979	48397	24329	72726	46248	26478	63.6
1988	65305	32615	97920	59648	38272	60.9
1998	63689	37728	101417	83611	17806	82.4

[Source: Foster (1965), WCOTP (1963), GMOEC (1972), GES, (1980); Asiamah & Pandit (1988), GMOE (1999)]

Flows out from the Teaching Service

The table shows that teacher supply improved rapidly in the last decade. It shows that by the end of 1990s the number of trained teachers had gone up by 23963 over the supply at the end of the 1980s. This is a rather misleading picture of the supply situation if the results are compared to the output of the teacher training colleges in the decade. Table 5 is a summary of the number of teachers placed in schools by the Teacher Education Division of the GES between 1987 and 1999.

Table 5   Output of Teacher Training Colleges between 1987 and 1999.

Year	Number of Teachers Posted to basic schools since the reforms	Number of Teachers Posted to basic schools in the decade
1987	4718	
1988	4777	
1989	4280	4280
1990	4772	4772
1991	9189	9189
1992	1671	1671
1993	4847	4847
1994	6434	6434
1995	5576	5576
1996	5446	5446
1997	5698	5698
1998	6190	6190
1999	5948	5948
Total	69546	60051

[Source: GES Teacher Education Division, Statistics Unit (2000)]

The colleges turned out in all 60051 teachers between 1989/90 and 1998/99 academic years (i.e. the last decade) to join the 59648 trained teachers that were in school in 1988. But this number has fallen short by 36088 suggesting a wastage rate of about 3000 teachers per annum over the decade.

In their analysis of enrollment and teaching manpower demand, Asiamah and Pandit (1988) took the wastage – i.e. flows from the teaching service due to deaths, retirements, dismissals, resignations, etc. – to be approximately 1% per annum of the stock of teachers. But the above analyses suggest the wastage rate has increased to about 3% per annum. A wastage rate of 3% can have a tremendous effect on the total stock of teachers considering that the wastage could be about 3000 teachers per annum leaving the service.

An interview conducted by the writer with an official at the GES Registry confirmed the wastage rate had increased substantially in the last decade. He explained that this was due the government's intention to move all workers onto the Social Security scheme – a development which has been designated '*CAP 40*'.

Another major reason for the high wastage rate discussed above concerns teachers taking study leave with pay to do further education programmes that take them away from the basic level. The majority of these teachers leave the basic to pursue programmes in UCEW. Table 6 is the summary of intake into the Diploma programme in UCEW in the last five years.

Table 6   Summary of Intake of Diploma Students in UCEW

Year	1993	1994	1995	1996	1997	1998	1999
Intake to Diploma	255	287		720	905	1250	2294

[UCEW Planning Unit, 2000]

In the 1999/2000 academic year, for instance, UCEW alone took over 2294 Certificate 'A' trained teachers away from the classroom. The question is how many of these are likely to go back to the basic level considering the fact that they are no more specializing in teaching at the basic level. The new 4-year B.Ed. programme which was began 1999/2000 academic year but are being given a broad-based teacher education qualification that will make them function effectively at both SSS and basic levels.

The wastage rate of 3 per cent per annum being suggested for the last decade was obtained when flows from the teaching service due to study leave without return to the basic level was below a 1000 Certificate 'A' trained teachers per year. But UCEW alone has started taking over 2000 Certificate 'A' trained teachers away from the classroom at the dawn of the millenium. This suggests there is going to be a sharp increase in the wastage rate per annum since many of these teachers are not likely to go back to the basic level after their B.Ed. programme which is intended to make them function effectively at both SSS and basic levels. They usually prefer the higher level for obvious reasons.

4.   Balancing Teacher Supply and Demand in the First Decade of the Millenium

Asiamah and Pandit (1988) projected that by the year 2000 the enrollment at primary and junior secondary levels of basic education will be almost double the 1987 figure assuming that enrollment rates will improve from the present rate of 66% to about 84% by 2000. Their projections also suggested that, given a maximum pupil teacher ratio of 46:1, teacher requirements would increase by at least 60000 by the end of the decade. Even though the projected increase in teacher supply was achieved by the end of the decade, the demand for teachers is still higher than supply. This was found to be due to high wastage rate emanating largely from teachers taking study-leave with pay to do further education programmes that take them away from the basic level. How can this problem be solved once and for all?

To balance teacher demand and supply in the shortest possible time will require two major schemes. One is to offer programmes that will upgrade the substantial number of untrained teachers in service to Teacher Certificate 'A' qualification. The second is to curb the flows from the teaching service due to retirements, resignations and study-leave that takes the teacher away from the basic level.

Upgrading Untrained Teachers to Teacher Certificate 'A' Qualification

One way to eliminate untrained teachers completely from the educational system in the shortest possible time is to step up the supply of teachers from the initial training colleges. But it will not be easy to increase intake into the colleges since

most of the colleges are operating at full capacity. Also in the face of limited financial resources, expanding the facilities to increase intake can only be a long-term option.

In view of the limited financial resources, the Teacher Education Division of the Ghana Education Service should re-introduce the 'Modular Training Programme', which was used in the 1980s to curb the situation. This was a part in-service and part college-based programme. A report of the Principals' Conference in 1990, observed that

> the 'Modular Training Programme' did not only make it possible to train a large number of teachers, but also made it possible to obtain potential trainees who were more willing to take up teaching posts in rural areas which were often the most unfortunate in times of teacher shortages (Amankwah, et al, 1990).

With good planning and the support of the Tutors of the Teacher Training Colleges and Training Officers of the GES District Directorates, the Teacher Education Division of the Ghana Education Service in collaboration with UCC and UCEW can upgrade all untrained teachers within a period of five years. This is therefore the direction in which GES Teacher Education Division should be channeling her resources to eliminate untrained teachers completely at the basic level.

Ensuring Further Teacher Education Programmes Keep Teachers at the Basic Level

The teacher wastage rate can be controlled if further teacher education programmes are tailored to the needs of basic school teachers. This can be done in two different ways. These are

- upgrading the status of the initial teacher training colleges to tertiary in order to offer programmes that will lead to Diploma in Basic Education.
- designing a further teacher education programme which is part in-service, and part college-based, for the upgrading of teachers.

The first concerns plans to upgrade the post-secondary Teacher Training to tertiary – RECAAST - i.e. Regional Colleges of Applied Arts, Science and Technology (Awuku, 1989). Even though these plans were proposed over a decade ago and accepted by the government (University Rationalization Committee, 1988), very little progress has been made towards the transformation of ITT colleges into full tertiary level institutions.

Similarly, the second was proposed as far back as 1996 as one of the strategies to ensure improved quality of education in our schools. The Free Compulsory Universal Basic Education (FCUBE) policy document indicated that further education programmes for the upgrading of Certificate 'A' teachers should employ modes other than the traditional full time college-based programmes. The document stated categorically that an 'INSET Diploma in Basic Education' programme should be mounted for the upgrading of the over 80,000 Cert. 'A' holders. This implies the Ministry supports a tertiary-level upgrading programme that will not take the teachers away from the classroom for long periods.

In 1997/98 academic year, the Teacher Education Division of the GES, in collaboration with UCEW and UCC, began an initiative to upgrade the curricula of ITT colleges into modular curricula. That is, workshops were organised on 'the formulation of strategies and policies for designing syllabuses for the proposed college-based and INSET Diploma in Basic Education. During one of such workshops, a consultant on teacher education was brought down from the UK to facilitate the development of the guidelines. Distinctions were made between

(i) the proposed college-based Diploma in Basic Education,

(ii) the proposed INSET Diploma in Basic Education,

(iii) the Diploma offered in UCEW.

The consensus was that, with regard to professional studies and education studies, the content and scope of the proposed college-based and INSET Diploma in Basic Education programmes should be comparable to what is contained in up to end of year 2 in the Diploma being offered in UCEW. It is envisaged that the proposed Diploma in Basic Education Diploma graduates can upgrade by a 2-year post-diploma Bachelor of Education programme in UCEW. It was agreed that the course outlines for the proposed INSET Diploma would be designed when that of the college-based Diploma was ready.

As result of the workshops, course outlines for the proposed college-based Diploma were written, credit hour(s) was clearly defined and the number of credit hours for each course stated. The course outlines were sent to 10 colleges selected across the country for trial testing and comments. Curriculum Teams comprising officials from the Teacher Education Division of the GES, UCEW and UCC went round the selected colleges to interact with both the Tutors and trainees in order to assess the appropriateness of the course outlines and obtain comments on what to add or subtract.

In August 1998, at a workshop to incorporate findings from the field testing of the course outlines, a new development cropped up. The Teacher Education Division expressed concern about the pace at which the change of the ITT colleges into full tertiary level institutions was being pursued. It was explained that the Ministry was worried about such problems that the upgrading was likely to lead to like

(i)   getting qualified teacher educators to teach in the colleges,

(ii)   getting good number of qualified students to enter the colleges,

(iii)   what salaries the new Diplomas will attract,

(iv)   whether there will be enough fund to pay teachers if they should all hold Diplomas or tertiary level qualifications, etc.

In view of the above, the courses outline designed for the college-based Diploma in Basic Education programme were re-written using the format that was used in writing the reviewed basic school syllabuses. From this period, the Teacher Education Division has been very careful in making pronouncements about whether or not the colleges are going to be upgraded and when this will really begin.

Besides increasing the teacher retention rate, the advantages of upgrading the ITT colleges into full tertiary level institutions to award Diploma in Basic Education are

- the nation's most promising youths (i.e. the most capable secondary school graduates) will be attracted into the teaching profession,
- emphasis in teacher training will shift from general education and mastery of subject disciplines onto the teachers' professional training;
- the period of college-based training can be shortened and the 'on-the-job' training components can be introduced since trainees will be able to take responsibility of their own learning;
- the general culture and way of social interaction will no more be controlled giving students the opportunity to be responsible for their own affairs'

The Way Forward

It is important to point out here that the Teacher Education Division of the GES is not the sole agent of teacher education charged with the task of upgrading the colleges. The FCUBE policy document categorically stated that "UCEW will train certificate 'A' teachers already in the system to obtain Diploma in Basic Education" (GMOE, 1996). However, it is sad to observe that very little impact has been made at the University College itself on initiatives taken so far to change of the ITT colleges into full tertiary level institutions.

UCEW has been very slow in responding to this challenge partly because the University College is yet to gain her autonomy from UCC who also the overseers the ITT colleges. Partly also because of disagreement within the University College on the differences between her own diploma and the proposed college-based and INSET Diploma in Basic Education.

Fortunately, the UCEW Diploma programme was phased out in the 1998/99 academic year. Teacher's Certificate 'A' holders entering UCEW now pursue a 4-year B.Ed. programme. The programme, which is an enhanced form of the 3-year Diploma UCEW has offered since 1992, has a 3-year college-based component and a 1-year school-based work. With this development, it should be easy to resolve the disagreement on the differences between the three Diplomas can be resolved.

The college-based Diploma in Basic Education programme being proposed to replace the ITT Certificate programme was not intended to have content and scope that is comparable to the phased out UCEW Diploma. There is need for a compromise that the content and scope of the proposed diploma should be comparable to what is contained in up to end of year 2 in the UCEW Diploma in all areas of study except for subject studies. In place of further studies in the subject areas we should rather have curriculum studies in basic school subjects. Therefore with the right caliber of entrants, the colleges can produce high quality teachers with the Diploma in Basic Education programme.

Getting enough qualified teacher educators to teach in the colleges is no more a problem. This is because evidence from the UCEW Planning Unit (2000) indicates that the University College has since 1996 graduated 5193 B.Ed. These teachers are not only qualified to teach courses up to the Diploma level at the tertiary level but also capable of handling the various subjects in the Diploma in Basic Education programme.

The solution to the question of whether or not there will be enough funds to pay teachers, and what to pay for which Diploma, is very simple. All that has to be done is put the teacher with Diploma in Basic Education qualification one scale above the starting point for Certificate 'A' trained teachers. And this is already being done. Take for instance the next scale above the trained teacher's starting scale and the starting scale of a Polytechnic Diploma B/S holder working in UCEW, as illustrated in Table 7. You will notice that the salary of the former will not be very different from that of Diploma B/S holders.

Table 7   Salary scales for beginning trained teachers and Diploma B/S in holder GES

	Beginning of Scale	End of Scale
Beginning Post Secondary Trained Teacher	¢2435642	¢2968045
Assistant Superintendent (i.e. proposed entry point for Diploma in Basic Education)	¢2755105	¢3358071
Beginning Diploma B/S Holder in UCEW	¢2818785	¢3451915

In terms of rewards, the additional salary above the Certificate 'A' teacher's earning that a teacher with a Diploma in Basic Education qualification will take is rather insignificant if one thinks of the many new things that the Diploma teacher would be able to do which the certificate trained teacher cannot do.

As it is now clear that the upgrading of the ITT colleges into full tertiary level institutions must be accomplished before the INSET Diploma programme can take off, the Ministry of Education has to hasten efforts to grant the University College her autonomy from UCC.

Finally, it has to be pointed out that tertiary level ITT programmes fall outside the jurisdiction of the GES Teacher Education Division. The Division should therefore not only concentrate on improving quality of work in the secondary level ITT college, but also devote some of her resources in re-initiating the Modular Training programme so as to eliminate untrained teachers completely at the basic level.

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Incorporating Psychosocial Life Skills into the JSS Curriculum: The Ghanaian Language Factor

KAMENGTANYE[10], A. M.

It is generally accepted that education is an important social factor. Its major universals in the cultural core are those forms of knowledge, skills, values and attitudes that motivate and control conduct, that enable the society to discriminate between right and wrong, and true and false, in all the situations of everyday life. In recent years there have been many questions as to whether education was performing this great social function in Ghana. Apart from the public outcry about the falling standard of academic performance, the increasing moral decadence and other social vices coupled with high unemployment among the youth is a major concern to the nation. For instance in his opening address of the 48th Annual New Year School in UCEW (1996/97) Ivan Addae Mensah, Vice Chancellor of the University of Ghana, Legon, observed that over 95% of pupils who went through the Senior Secondary School system could not make it to the tertiary level. These graduates have been "poured out into the non-existent job market because they are ill-trained and ill-equipped for the fast changing and challenging world" (p.7). Lack of employment may not mean the non-availability of opportunities for jobs but the inability to make the right decisions/choices due to lack of self esteem, self awareness, peer pressure or other psychological factors. This is a recipe for upheaval in society.

Many reasons have been advanced for this "crisis". Among them are, inadequate and unsuitable infrastructure and materials in schools, short supply of teachers with inadequate knowledge to teach, negative attitude of teachers in the job and the inappropriateness of most of our curricula.

A good curriculum is shaped by the culture of the society it operates; the social values, social needs, aspirations and social problems that affect it. Since these social attributes keep changing and expanding it is incumbent that curriculum planners keep in touch with these changes. According to Wheeler (1983:12), if the curriculum remains static in a dynamic society, especially in the period of rapid social change, it is likely that the education which is meant to induct the young into society and to promote an intelligent understanding of it, will produce a stale or a wieldy society.

Curriculum Development in Ghana

Since the introduction of formal education into this country, in the sixteenth century, curriculum development has had many changes. Initially the pioneers of education in Ghana, the merchant companies and the early missionaries, was

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each responsible for determining what was taught in their schools. Education to the merchants was a subsidiary function of their trade (Antwi 1992:6) and therefore the system geared towards preparing clerks, bookkeepers and messengers for the colonial economic system (Boateng 1992:76). That of the missionaries was more inclined to the development and use of the indigenous languages in propagating the bible. However the birth of a policy in curriculum development, in Ghana, according to Tamakloe (1992:12) could be associated with the Accelerated Development Plan for Education in 1951. All curricula, unfortunately, up to 1970s, were mainly academic in their provision; not much was provided for the development of other skills in terms of life long opportunities. By 1970, the need for education reform was felt.

Dzobo Committee Report: New Educational Reforms

Not until 1987, when the New Educational Reform Programme was implemented based on the Dzobo Committee Education Report of 1974 and followed by its subsequent review in 1996, emphasis in the educational curriculum was deeply rooted in the provision of academic excellence. The white-collar jobs, for which these programmes trained the youth, were non-existent. The Dzobo Committee Report of 1974, therefore sought to arrest this situation by making provisions for the training of the youth to acquire life skills. The fifth principle of this report states that throughout the entire pre-university course emphasis should be laid on the:

> development of practical skills and the acquisition of manipulative (manual) skills development of the qualities of leadership, self-reliance and creativity through cultural programmes study of indigenous languages.

It further states that teacher education should be geared towards the realisation of the stated principles and objectives of the new reforms.

Thus the reforms noted among other objectives, the development of such skills and attitudes that would enable the individual to be an effective citizen. Therefore under skill development, manipulative or vocational skill training was to be given much attention in the primary and Junior Secondary Schools (JSS) levels. The syllabus was however silent on attitudinal development. The mere mention of attitudes in the syllabus without describing what would go into it did not give teachers, who are mostly mere implementers of curriculum, the clear guide to teach accordingly. But it is important to note that attitudes have a strong bearing on social relation/existence, which in turn affect academic development (Parson et al 1988).

As intimated by (Davidoff, 1987), attitudes concern socially significant objects, groups, events, emotions, feelings, tendencies and cognition which influence the behaviour of the individual. This suggests that even academic excellence is better achieved in a psychologically sound mind. For instance it is asserted that there is a strong correlation between self-esteem and academic success (Harter 1986, Cummins 1990, Wright 1995). Material wealth alone may not be conclusive evidence of success or happiness in life unless they are linked up with the right norms of the society in which one lives. For instance riches may breed much more worries and unhappiness to the wealthy person that has not developed the skills for emotional control and good interpersonal relationship among the people of his or her community.

At the individual and group level, therefore, education has to be designed in such a way as to shape the nature of the influence of social and environmental factors in such a way as to have positive influence on the individual. This concern is greater when one considers the hydra-headed problems that confront the youth of today.

Coping with ones life depends upon how well one copes with the existing culture in ones society i.e. developing the right attitudes to meet the challenges of the environment; as no one person "lives on an island". It is commonplace to hear that "the world is now becoming a global village" and therefore the growing recognition that cultural coexistence is inevitable. These cultures, unique as they are, are equally many. In Ghana, apart from the influence of non- Ghanaian cultures the many different ethnic entities of the country present many sub-national cultures that also present cultural diversity. In another development, the rate at which the national and non-national cultures are developing seems to outpace the rate of absorption by the youth. Indeed there is "a cultural explosion": many people and new things the youth are exposed to now; and this has the potential of bringing about "cultural shock" The youth are overwhelmed and may become frustrated because they are not able to cope or adjust to the demand of those things that they so strongly feel they should be able to do.

Although there is a strong belief that cultural interaction is necessary for cultural growth UNESCO (1970) observes that cultures of the stronger countries which are widely diffused by the media can damage what is unique in the cultures of countries which have not got the means to produce, in large enough quantities for distribution, the films, the books or radio programmes which reach most homes. This state exists in the lives of the youth of our country, Ghana, where Western culture in particular, is cutting through the fabric of the youth like a hot knife cutting butter.

Indeed the traditional culture that is to give psychological stability to the youth in respect of this "cultural invasion" is compelled to abandon some of its elements in the face of advanced technology and urbanisation. For instance, some of the traditional mechanisms like the family, clan, beliefs, taboos and traditional religion and law are less adequate today in fostering life-coping skills when one considers other influences like the media and other social settings which make the lives of young people, their expectations, values and opportunities very different from that of their parents and society (Weisen et al, 1994:5). The role of the traditional settings as agents of psychosocial competence has been seriously eroded as a result of "disintegration" of the traditional society. This view is supported by Ardayfio (1994) who avers that today there is a conflict between tradition and modern values. For instance contracting marriage was the "prerogative" of the families of the man and the woman; many factors were considered and agreed upon by both families thus sealing it as a "family marriage". Again in some Ghanaian traditional practices the young had no right to take decisions that affect even their own lives because they were considered children and therefore are "not ripe" enough to have ideas, all decisions and choices must be taken or made for them by the older ones.

It would be naïve or indeed unnatural for tradition and modernity to be in love – it is a necessary evil in life. The high vulnerability of the youth to behavioural problems like youth violence, HIV/AIDS and to conditions like emotional instability, lack of confidence, poor decision making, communicative incompetence, poor interpersonal relationship and inability to solve conflicts,

substance abuse, teenage pregnancies and teenage parenthood, negative peer influence, lack of teachers, infrastructure and learning materials, poor performance, unemployed etc can be traced to the lack of an adequate educational facility which can help the child develop skills that can help sustain a healthy life.

To forestall or at least, minimise these social hazards in the lives of the youth the UN Convention on the rights of the child, to which Ghana is a signatory, provides that the obligation of education systems should positively shape values, attitudes and the personality of children by developing the child's personality, talents, mental and physical abilities to their fullest potential (WHO/GPA 1994). The teaching of psychosocial skills should enable the young to take full control of their lives in society.

Psychosocial Life Skills

Psychosocial or generic life skills are skills that have to do with the individual's mind or psychological orientation in relation to himself or herself and the society at large. They are personal and social abilities for adaptive and positive behaviour that enable the individual to deal effectively with the demands and challenges of the every day life, (Caplan et al, 1992). A definition adapted by the Ghana Institute of Management and Professional Association (GIMPA) at a workshop (1990) states that "psychosocial life skills is a body of knowledge, skills and dynamic tools, attitudes, habits and practices which enable an individual to live a healthy life and to inculcate a sense of identity for the benefit of the individual, the society and the nation".

Indeed psychosocial skills contribute to our self-efficacy, self-confidence and self-esteem. They seek to address, among other things, resistance to negative social tendencies and influences, tolerance, mental stability, resilience versatility in the individual's sociabilities, motivation, respect and social support.

The tenets of these definitions presuppose that mental orientation is an important factor in human development and that positive behaviour is a key to success in the life of the individual and society.

Life skills education therefore focuses on the combination of psychological and social factors that contribute to healthy behaviour. They permit the youth to avoid unhealthy behaviour and develop healthy ones to face the ever increasing challenges of their times. Psychosocial skills by their nature and purpose may then be regarded as tools necessary for the ultimate in life.

In considering the nature of psychosocial skills, one may consider the area or needs assessment of the target population, in this case, the Ghanaian child. Since these are cultural antecedents and since cultures are so unique and diverse it follows that these skills are likely to differ across cultures and settings. However a critical study of these skills suggests that there are core or universal set of skills that are basic in promoting the well being of children and adolescents. These skills include:

- Decision- making and problem solving
- Creative and critical thinking
- Effective communication and interpersonal relationship
- Self- awareness and empathy
- Coping with emotions and stress.

The development of skills in *decision-making* enables the individual to take decisions that are beneficial to him or her and the society at large. In the same vein problem solving skills help us to deal judiciously with our problems.

Creative thinking skills involve looking beyond our own experience, thus making it possible for us to change a situation to suit our life. Again, information needs to be objectively analysed with which we can make assessment of issues before making a choice or finding a solution to the problem. This calls for critical thinking skills.

Communicative skills development, apart from making the individual able to communicate clearly, both verbally and non-verbally, leads the child or adolescent to express his/her opinions, desires, needs and fears in a culturally accepted context. Effective communication also plays a very vital role in interpersonal relationship.

Knowing one's self is important as it helps the young ones to accept certain positions they find themselves and make informed choices. This is possible when children have developed the skill of self-awareness. When children know their strengths and weaknesses, desires and dislikes, it will help them deal with stressful situations and develop empathy for others.

To *empathise* with someone is to place one's self in the situation of another who may be different from us but would respond to our emotions appropriately. Such skills can also lead to the improvement of social interactions and provide care or assistance to people in need e.g. AIDS patients and the disabled.

From the short description of some of these generic skills it is evident that their educational value is immense and since the bulk of enculturation and acculturation according to Wheeler (1983), has shifted from the home to school, it is only proper that the school uses its expertise in meeting the challenges posed to the very existence of the child.

Life Skills Education in Schools

If education is to assist the individual realise his/her needs and fit into society then the school has a task of guiding pupils to develop their psychosocial competence. The school is in a better position for life skills education because its role is to socialise young people.

In most areas of Ghana it is the school that has more access to children and adolescents on a large scale and also has the existing infrastructure. The school also has the expertise personnel who in turn collaborate with parents and the communities towards effective teaching and learning. It is also the school that can make some evaluation of pupils' attitude be it on short or long term estimation.

Ghanaian Languages and Life Skills

It has been suggested by some linguists that our view of the world is largely conditioned by our mother tongue (Lado 1964, Mackeachie and Doyle 1966). Given that life skills concerns the individual and his/her world it will not be an overstatement to say that psychosocial competence can be best achieved through the use of the Ghanaian Language. This is the more so when one considers the fact that not only is language and thought interdependent and therefore an important medium for the development of these skills but that since language and culture are inseparable and since psychosocial skills consist of cultural forms and norms it goes without saying that Ghanaian language is one of the best subjects through which psychosocial skills can be developed.

In support of this stand, (Wallwork 1978) states that experience and language interact all the time. Therefore teachers try to foster the emotional social and

intellectual growth of the child by encouraging him/her to use language as freely and fluently as possible. Again the personal phallic communion establishes a social relationship between individual people or groups of people. Language by its nature fulfils a serving need or expresses a genuine human reaction. It is further believed that to some extent our views are seen or evaluated by others, as culturally appropriate or otherwise, by the manner and extent of language we use. The more flexible and wide-ranging a person's language is the richer is likely to be the quality of his/her life, conversely the more restricted and limited his language the lower the quality of his/her life.

As pointed out by Wallwork (1978), no two languages are identical, and it has been suggested, therefore, that people with different mother tongues will have different responses to things based on their respective languages. Different people view the same objective facts in different ways and express their perceptions in quite different forms. Ethnicity may therefore be an important variable in human attitude – while a group may be akin to overstating and dramatising a situation, another group, seeing life as full of privations, understates the problem, as a defence mechanism. This suggests that the maternal language is the best medium through which these psychosocial behaviours can be experienced and therefore the need to recognise its important role it has to play in this regard.

Indeed some linguists (Wright, 1995, Lado 1964, Cummins 1990) have suggested that our view of the world is largely conditioned by our mother tongue. In many respects if the Ghanaian child lives in his/her language i.e. spending most of the time in the home, working with the mother i.e. in play, during work, interaction, planning, deciding, fighting, settling problems etc. then the use of the mother tongue is the best option in the teaching of psychosocial life skills. Generic life skills are highly practical and since they permeate every aspect of children's life, they need to exhibit them all the time and throughout their lives. It goes without saying therefore that the child's mother tongue which is in born is much more practical to him/her because he/she thinks, sees, hears and associates through that much better. It would also be important to note that with the over 50 different languages and ethnic groups in Ghana, the responses to these generic (psychosocial) skills will differ in the various schools; and environments/communities an aspect that needs to be strongly considered by teachers in the teaching of these skills.

Enriching the Curriculum

Since the curriculum is the primary instrument for the implementation of educational programmes it is incumbent that the necessary provisions be made in terms of objectives, content, activities and evaluative strategies in the syllabus. In the statement of objectives of topics in Ghanaian Languages, the life skills components should be incorporated. The teaching/learning experiences should also be expanded to cater for the life skills to be developed while at the same time the method of evaluation should be a little more diverse.

Generally teachers are seen as custodians of curriculum but in most countries, like Ghana, they are merely the implementers. However, most curriculum specialists now seem to agree that the involvement of teachers in curriculum development can be made on the basis of moral principles as well as a practical necessity. As suggested by Stenhouse (1995) since there are many people who are affected by curriculum decisions the democratic concept of education should be that those who work with a decision should have a share in the planning of it. Apart from helping to evolve a practical and workable document the participation

of teachers may be seen as necessary to ensure that programmes will be carried as intended, since they are a party to the planning. It will further enhance their professional status and beef up their self- esteem. According to Apple and Teitlbaum (1986) teachers who are not consulted, sometimes do not understand the new materials or simply do not identify with them, and therefore will continue to teach in the way they had taught before. In this regard it is proper that teachers have a thorough knowledge/awareness of psychosocial skills; what they are and their types and function. In this way the needs and capabilities of teachers will also be ensured.

The Ghanaian Language Syllabus and Psychosocial Life Skills

Topics and items in the Ghanaian Language syllabus lend themselves to the development of psychosocial life skills if only teachers could identify problems related to the topic and recognise the enhancement of these positive attitudes in their pupils. Take a look at some of these topics and the psychosocial skills that can be developed from them ....

Item	Content	Objectives	Psychosocial Skills that can be developed
1. Greetings	Daily greetings, occasional greetings, seasonal greetings	Community with friend explain, describe, narrate etc.	• Interpersonal relation • Effective communication
2. Naming Systems	Birth categories. Day/situational names	Be able to tell his/her name and meaning; background likes and dislikes	• Self-awareness • Self-identity • Assertiveness
3. Profession/ Occupation / vocations	Types of vocations Eligibility	Make informed decisions Develop their creative abilities Negotiate	• self-awareness • critical thinking • decision making
4. Funerals	Types Dirges Clothing Significance	Suggest ways for dealing with stress, empathising with others.	• coping with stress, emotions • showing empathy • making informal choices • interpersonal relation

A needs assessment of the individual schools will help identify the most relevant psychosocial skills for each environment. These needs assessment should make use of existing reports and statistics that describe the prevalence of particular problems.

Teachers should therefore take note of and identify what psychosocial life skills can be developed in these and any other items they find in the syllabus. It would be helpful for the teacher to write down some sub-content objectives in relation to what psychosocial life skills there are to be emphasised in the lesson i.e. just as the objective(s) of the content of the lesson is/are stated, that of psychosocial life

skills should also be noted. The following are guidelines drawn for the teaching of psychosocial life skills in Ghana.

1. To equip students with skills to develop healthy self-concept, self-confidence and self-esteem.
2. To empower pupils to deal effectively with stress and negative pressures.
3. To assist pupils to develop their creative abilities.
4. To develop skills for making informed decisions.
5. To develop non-violent conflict resolution and negotiation skills.
6. To promote the development of safe and healthy sexual behaviour.
7. To develop critical thinking skills.
8. To equip pupils with effective communication and interpersonal relationship skills.
9. To reinforce the development of healthy behaviours.

The teaching of life skills should be based on Tyler's (1950:55) and Taba's (1962:265) inductive theory: This teaching/learning strategy based on personal experience has been prescribed in the Social Learning Theory developed by Bandura (1977). In this theory learning is seen as an active acquisition, processing and structuring of experiences. Activities should progress from simpler to more complex. They should, at any one point, be related in such a way as to provide a unified and integrated experience for the pupils. Indeed pupils should not only be seen as the centre of the process but should be actively involved. This may include working in small groups and pairs, brainstorming, role-play, games and debates. Teachers should also find out what pupils' ideas are about a particular situation in which a skill can be developed. Pupils may then discuss in their groups followed by role-play scenarios. Actual practice is a vital component of life skill education. Therefore an out of class assignment should be given to enable pupils research into and further discuss the skills and how they can practise them. Indeed teachers should act as facilitators rather than instructors. As mentioned somewhere in this write-up the ability to achieve cultural relevance and linguistic integrity in the teaching of these life skits form a determining factor in the success of their development.

An activity-packed lesson also creates a congenial atmosphere for psychosocial life skills development in pupils. Indeed since life comprises of so many shades and situations it is to be expected that there are not only many activities but a good variety of them like demonstrations, drawing, exhibition, dance, case study story telling, proverbs/riddles, interviews, work samples, situational testing, true false tests, matching, graded assignments role play, skits, simulations, group/paired work debates, dramatisation, songs and poems etc.

One serious thing that needs attention in curriculum process in Ghana is the need for evaluation of our curricula. Wiseman and Pidgeon (1970) submit that since the curriculum is an instrument for achieving the objectives of policy, and therefore the need to evaluate the policy itself, we should evaluate the instrument as a means to those ends. Although evaluation of attitude is not so easy we can recognise the fact that significant behaviourial patterns can be observed even if not weighted. A criteria should be set to determine how well the curriculum has performed. Teachers can make tally tables of pupils and record certain attitudes pupils exhibit. Pupils could also keep their own diaries on the same and compare notes, ask friends to say whether they see any change in their behaviour pattern. The teacher, as usual, should be the coordinator for pupils' research findings.

The introduction of life skills education into schools in Ghana is not new (it started in 1990). However it cannot be said that most teachers have the expertise to handle this all- important course. This situation becomes more serious when one considers the psychological life skills, which have been in the doldrums until now. The need to prepare the teacher for this task cannot therefore be over emphasised.

This calls for workshops at the various levels of the educational network to update teachers' knowledge on this very important issue. A cascade strategy for disseminating the training of teachers may be useful (i.e. teachers who are trained at a certain level may also go on to train others at another level). It would be suggested that this strategy takes the following level: National → Regional → District → Zonal/Circuit → School. It is hoped that at such workshops teachers will not only realise their role in the exercise as part of the planning body but will develop their own strategies in dealing with some of the topics in a bid to achieving life skills objectives. Indeed an acceptable format of lesson plan to serve as a guide to teachers to cater for life skills could be developed and adopted. To this end teacher manuals could be designed along side the in-service training to guide other teachers towards the effective implementation of the programme.

The University College of Education of Winneba, which has the onus of training teachers, should, as a matter of urgency, incorporate the teaching of psychosocial life skills in their methodology programmes. In the Ghanaian Language Department, lecturers, especially those who handle methodology courses, should be given an orientation with which they can identify what generic skills can be developed in the various topics and what strategies can be employed. Additionally during On-Campus and Off-Campus teaching practices supervisors should endeavour to look out for and encourage the teaching of these generic life skills. Again Teacher Training Colleges should as well, as a matter of urgency, include the programme in their curriculum and update their tutors to teach their students. As these colleges produce the bulk of teachers in Ghana the course should not be a matter of choice but a core course.

Conclusion

The teaching of generic life skills is highly relevant to the daily needs of young people. When pupils develop these skills it helps them to overcome both their health and social problems. The practice of psychosocial life skills in schools instills cooperative learning among students, prevents school dropout. According to Parsons et al, (1988) life skills programmes suggest that methods used can help improve teacher and pupil relationships and decrease classroom behaviour problems. Weissberg et al, (1989) also intimates that there is improved academic performance among pupils whose programme include the teaching of these generic skills. Again Zabin et al, (1986) suggests that psychosocial skills development in pupils improves school attendance, discourages less bullying and fewer referrals to specialist support services and better relationship between children and adults.

The effective teaching of psychosocial life skills in Ghanaian schools will reduce the school drop out rate and minimise the number of street children in our society. Drug abuse and teenage pregnancy and teenage parenting would have been curbed greatly while reducing the alarming HIV AIDS infection rate among the youth. There will also be some improvement in the falling standards of students academic performance. For an effective implementation of the programme there is the need to give adequate training to teachers and at the same time to monitor closely our curricula and their objectives.

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Stakeholders' Views on Usefulness and Lesson Presentation Competencies of a Technical and Vocational Teacher Education Programme

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Abstract

This paper is part of a larger study that focused on the views of former students and course tutors as formative feedback for programme redesign. Seventy-eight former student teachers and eight tutors of a certificate in technical and vocational education programme participated in the study. Their views on usefulness and adequacy of competencies acquired on the course were sought. Nineteen competencies on lesson presentation that formed the focus of this paper were part of 69 performance-based teacher education (PBTE) objectives developed by the National Centre for Research in Vocational Education at the Ohio State University. The PBTE objectives were modified into four-point Likert-items and pilot-tested, yielding a Cronbach's alpha of 0.67. Both the former student teachers and the course tutors had very high regard and appreciation for the course; and they found it useful to the needs of technical and vocational education teachers. The two groups of respondents also unanimously rated over 50 percent of the 19 competencies acquired on lesson presentation as adequate. However, they were of divided opinion regarding eight out of the 19 competencies on lesson presentation that were surveyed. Whilst the former student teachers rated them as adequate, the tutors rated them as inadequate. The identified eight areas of mixed agreement on the adequacy of competencies acquired are the areas of weaknesses of the programme and would need improvement.

Introduction

The certificate programmes in Business Education and Industrial Arts Education which started in 1963 at the Kumasi Advanced Technical Teachers' College (now the Kumasi Campus of the University College of Education of Winneba) over the years underwent changes and subsequently gave way to diploma and degree programmes in 1977 and 1996 respectively. For no apparent reason, the upgrading was never extended to the certificate programme in Technical and Vocational Education which started at the same time with the other two programmes mentioned above but only underwent few changes in 1984. The changes and reviews were apparently in response to comments, feedback, and new demands on the College's programmes. However, such changes and reviews have been expertise-oriented rather than stakeholder-based, relying in a large measure, on the conventional wisdom of curriculum experts in technical and vocational education both foreign and local.

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The stakeholder-based approach to programme redesign is highly recommended for its merits (Weiss, 1983; Worthen & Sanders, 1987). In spite of the merits and increased interests in stakeholder-based evaluation, Griggs and Burnham (1988) have observed that many of the reform recommendations in technical and vocational teacher education have been based on conventional wisdom. Lynch (1997) also asserts that until 1993, the discussion of reform of teacher education in the vocational education literature was limited to individual author's suggestions for vocational education response to reform initiatives and comments on the problems posed by pressures for reform. According to Griggs and Burnham (1988), programme redesign had excluded stakeholder views because sound reliable data often did not exist. This view is shared by Weiss (1988) who acknowledges that disturbingly fewer studies have been done on the views of former student teachers as feedback for programme redesign in technical and vocational teacher education in many countries. This observation is equally true for technical and vocational teacher education in Ghana. This lack of data would not need to deter the redesign of technical teacher education, but it could deter technical teacher educators and other policy makers from making informed decisions relative to further reform and in assessing outcomes of redesigned programmes. For technical teacher educators in Ghana therefore, the issue is how the views of stakeholders (student teachers, former student teachers, principals and administrators, teachers of vocational institutions, etc.) rather than individuals' opinions could be used for programme review.

Statement of the Problem

In spite of the changes and reviews of programmes of the former Kumasi Advanced Technical Teachers' College (KATTC), complaints come from principals and heads of department of some technical institutions about lack of competence on the part of some former student teachers of the reviewed programmes. So it might be that the reviews were not based on empirical research regarding major stakeholders' views. In view of the situation, the main problem of this study was how to use an example to demonstrate that major stakeholder views could also be used in Ghana's technical and vocational teacher education review instead of relying solely on the conventional wisdom of curriculum experts.

Purpose of the Study

This paper is part of a larger study that sought the views of former student teachers and their course tutors regarding the relative strengths and weaknesses of the Certificate in Technical and Vocational Education programme, which is yet to see any major upgrading. It reports on the views regarding the usefulness of the programme and the adequacy of the competencies on lesson presentation acquired on the course.

Research Questions

On the basis of the purpose of the study and review of the literature (Kirkpatrick, 1987) the following research questions were deemed appropriate to form the focus of the study:

1. How do the former student teachers and the course tutors rate the usefulness of the programme?

2. How do the former student teachers and the course tutors rate the adequacy of the competencies acquired from the programme regarding lesson presentation?

3. Do the ratings of the former student teachers differ from that of the course tutors regarding the usefulness and adequacy of the competencies acquired?

Methodology

Research Design

The study employed the single-paradigm cross-sectional descriptive survey with a questionnaire to provide answers to the research questions. This was based on the fact that review of literature and an analysis of studies on effectiveness of programmes and teaching by Mathis (1980), Medley (1979), and Wentling and Barnard (1984), showed that most of the work done was descriptive surveys. Reed (1986) also concludes that similar studies made the most use of researcher-designed questionnaires for data collection.

Population and sample

The population for the study comprised the 94 student teachers that completed training at the KATTC during the 1992/93 academic year and their eight course tutors. The former student teachers comprised both full-time (n = 30) and sandwich (n = 64) student teachers. The choice of the population was based on the reason that at the time of the study, it was the most recent group of student teachers who had passed through the College. The snowball sampling design was adopted for the study. In all, 78 former student teachers, representing 83% of the population, could be reached. This was made up of 27 full-time and 51 sandwich student teachers.

Instrument

A questionnaire of two sections consisting of 72 Likert-type items was used for the larger study. The first section consisted of three items on 'usefulness of the course' that corresponded to 'reaction' in the Kirkpatrick (1987) Model of evaluating programmes. According to the Model, 'reaction' answers the question: How well did the students like the programme? The second part of the questionnaire consisted of 69 items on 'competencies acquired' that corresponded to the element 'learning'. As applied to the Model, the element 'learning' also answers the question: What facts, techniques, or skills did the trainees learn?

The 69 items on 'competencies acquired' were selected from the 127 performance-based teacher education (PBTE) objectives identified and verified in 1989 by the National Centre for Research in Vocational Education (NACVRE) at the Ohio State University in the United States. All the 127 PBTE objectives seem to be rooted in the principles of technical and vocational education developed by Miller (1986). The selection of the 69 items was done after exhaustive analysis of the curriculum of the programme. The 69 selected items on ' competencies acquired' were grouped into 14 themes that included 19 items on lesson presentation. The three items on 'usefulness of the course' and the 19 items on ' competencies acquired' regarding lesson presentation formed the basis of the findings of this paper.

The four-point scale was used for the study as against the traditional five-point scale. This is because there is the tendency for individuals to select responses in the centre of the scale if an odd number response scale is used (Anderson, 1985; Casley & Kumar, 1988; Downie, 1967). For the items on ' usefulness of the course' the responses for the four-point scale were: Extremely useful (4), useful (3), of little use (2), and extremely useless (1). For the items on 'competencies acquired' from the course, the responses for the four-point scale were: A great deal (4), a lot (3), very little (2), and virtually nothing (1).

Even though the competencies used in the questionnaire have been subjected to extensive validation (NACVRE, 1989), they were presented to some experts to determine their suitability and clarity of wording. Thereafter, the questionnaire was pilot-tested in July 1994 using 10 randomly selected students who had just completed the Certificate in Technical and Vocational Education course at the College. The pilot-test data yielded a reliability co-efficient (Cronbach's alpha) of 0.67. According to Livingstone (1985), this alpha value was a fair indication of a good internal consistency and that the instrument was fairly reliable.

Method of Data Analysis

The mean scores for each item were computed for each of the two groups of respondents. The resultant mean scores regarding items on ' usefulness of the course' were compared with the theoretical mean score (assuming normal distribution of responses) of 2.50 to determine the usefulness or otherwise of the aspect of the programme depicted by the questionnaire item. Similarly, the mean scores for each item on 'competencies acquired' were compared with the theoretical mean score to determine 'adequate' and 'inadequate' competencies. Thereafter, for items that both groups showed uniform agreement in their responses (mean scores of both groups either exceeded or fell below 2.50), the mean scores were compared using t-test at the 0.05 level to determine whether there were significant differences in their extent of agreement. Owing to the large disparity between the sample sizes of the two sub-groups, a test of homogeneity of variances was conducted for each item.

Results and Discussion

Usefulness of the Course

The results of the test of homogeneity of variances indicated that all the three items on 'usefulness of the course' met the conditions that the two sub-groups were from a homogenous population. The responses of the former student teachers and their course tutors regarding the usefulness of the programme are summarized in Table 1. The respondents rated very highly the usefulness of the course. As depicted in Table 1, the mean scores of the two groups for the three items far exceeded the theoretical mean score of 2.50. Thus, both the tutors and the former student teachers were unanimous that the programme was useful to the former student teachers' present work, to their future work, and for understanding the way vocational and technical (VOTEC) education works.

Table 1   Student Teachers' and Course Tutors' Ratings of Usefulness of the Course

Usefulness of course	Student Teachers (n=78)		Tutors (n=8)		t-value
	$\bar{x}$	SD	$\bar{x}$	SD	
To present work or study	3.58	0.532	3.38	0.518	0.67*
To future work or study	3.41	0.624	3.63	0.518	-0.69*
For understanding the way VOTEC system works	3.42	0.503	3.50	0.535	-0.270*

* Non- significant at p = 0.05, df = 84

Since both groups showed uniform agreement in their responses for all the three items, the mean scores of their ratings were compared using t-test at the 0.05 level of significance. The results of the t-test are also presented in Table 1. Even though the two groups appeared to differ in the extent to which they found the course useful, the differences were not significant. Thus, the extent to which both groups found the course useful was similar.

From the foregoing, the two stakeholders of the programme that participated in the study are satisfied with its outcomes. Mosbergen (1982) found similar satisfaction among diploma in education student teachers in Singapore after only 10 weeks of classroom practice. The present finding, however, differs from the University of Ontario study in the literature by Montabello (1989) in which 33 per cent of the participants expressed dissatisfaction with their training. Klinzing (1990) found similar contrast in a study in Germany in which more than 50 per cent of the participants felt that their preparation for the teaching profession was insufficient, due to lack of balance between theoretical studies and studies oriented to teaching practice.

Adequacy of Competencies Acquired on Lesson Presentation

The results of the test of homogeneity of variances indicated that all the three items on 'competencies acquired' met the conditions that the two sub-groups were from a homogenous population. Table 2 shows the areas of uniform agreement on adequacy of competencies acquired on lesson presentation (both groups had mean scores above 2.50). In all there were 11 (58%) of such areas out of the 19 competencies surveyed. These areas contributed the strengths of the programme regarding competencies acquired on lesson presentation.

A t-test for paired means of the two groups at the 0.05 level was performed for each of the areas of uniform agreement. This was to determine whether there were any significant differences in the expressed adequacy levels regarding the areas of uniform agreement on adequacy of competencies acquired. The results of the t-test also appear in Table 2. The results indicated that there were no significant differences between the two groups regarding expressed adequacy levels of nine of

Table 2 Areas of uniform agreement regarding adequacy of competencies acquired on lesson presentation

Competencies acquired	Student Teachers (n = 78)		Tutors (n = 8)		t-value
	$\bar{x}$	SD	$\bar{x}$	SD	
Guide students' study	3.58	0.493	3.38	0.744	0.54
Direct students' lab/workshop experience	3.20	0.485	3.25	0.886	-0.12
Introduce a lesson	3.49	0.570	3.63	0.518	-0.46
Direct students in applying problem-solving techniques	3.28	0.499	3.50	0.535	-0.75
Summarise a lesson	3.53	0.575	3.50	0.535	0.10
Employ the project method	2.83	0.832	3.50	0.535	-1.74**
Employ oral questioning techniques	3.56	0.503	3.50	0.535	0.20
Employ reinforcement techniques	3.35	0.554	3.50	0.535	-0.49
Demonstrate manipulative skills	3.26	0.383	3.50	0.535	-0.89
Demonstrate a concept or principle	3.28	0.494	3.50	0.535	-0.75
Present information with audio visual aids	2.52	1.000	3.50	0.535	-2.25**

** Significant at $p = 0.05$, df =84

the competencies that both groups rated as adequate. However, they differed significantly in their expressed levels of adequacy of competencies relating to the ability of the former students to employ the project method in teaching, and presenting information with audio visual aids. Even though both groups agreed that the competencies acquired in these two areas were adequate, the course tutors expressed significantly higher level of adequacy than the former student teachers.

The summary of the ratings on the competencies of mixed agreement on adequacy (each item was rated by at least one group as inadequate) is presented in Table 3. There were eight skill areas regarding lesson presentation that the two groups were divided on their adequacy. For all the eight competencies of mixed agreement on adequacy, the former student teachers rated them as adequate, whilst the course tutors rated them as inadequate. As these areas were rated by at least one group as inadequate, they were taken as the areas of weaknesses of the programme.

A number of studies in the literature (Klinzing, 1990; Mosbergen, 1982 ;Tisher, 1990; Yaosaka and Ushiwata, 1988) suggest that former student teachers tend to value most the practical aspects of their training. This probably accounted for the

higher rating of the areas of mixed agreement by the student teachers when the course tutors were rating them as inadequate. The differences between the ratings of the student teachers and the course tutors perhaps lay in the fact that course tutors tend to value theoretical and foundation courses as more important than mere practical teaching skills as found by Yaosaka and Ushiwata (1988).

Table 3   Areas of mixed agreement regarding the adequacy of competencies acquired on lesson presentation

Competencies acquired	Student Teachers (n = 78)		Tutors (n = 8)	
	$\bar{x}$	SD	$\bar{x}$	SD
Organize field trips	2.54	0.736	2.38	0.744
Conduct group discussions	3.42	0.525	2.38	0.916
Direct students in teaching others	3.13	0.579	2.38	0.916
Teach both slower and capable learners together				
	3.33	0.645	2.38	0.916
Individualize teaching	3.11	0.608	2.13	0.991
Employ team-teaching approach	3.10	0.665	2.13	0.991
Use subject matter experts	2.84	0.821	2.38	0.916
Employ simulation methods	3.26	0.706	2.13	0.535

Conclusion

The main focus of the study was that the views of former student teachers and course tutors could be used as a formative feedback for programme redesign. From the findings of the study, it could be concluded that that the former student teachers and the course tutors had very high regard and appreciation for the course; and that it was useful to the needs of technical and vocational teachers. This conclusion, as a feedback on the usefulness and relevance of the Certificate in Technical and Vocational Education programme, could act as a morale booster for the college administration and tutors. The tutors need to reflect on this, identify the possible causes of this, and try to maintain them so that the expressed high regard and appreciation for the course do not slip.

Additionally, the former student teachers and the tutors unanimously rated over 50 percent of the competencies acquired on lesson presentation as adequate. These are areas that constitute the strengths of the programme and could be used to encourage and maintain standards in teaching skills development relating to lesson presentation on the course. However, there were eight areas of mixed agreement on the adequacy of competencies acquired on lesson presentation. These areas are among the weaknesses of the programme and would certainly need improvement.

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The Influence of Peer Relationships on Academic Achievement in Senior Secondary Schools in the Cape Coast Municipality, Ghana

MALLET, F. O[12].

The hypothesis that mid and late adolescent peer relationships influence academic achievement was examined by investigating the relations between senior secondary students' involvement in five different peer relationships namely peer acceptance, reciprocated friendship, peer group membership, peer victimization, peer tutoring and their academic achievements. Secondly, the role that students' social inclinations (prosocial and antisocial behaviours) and emotional characteristics (distress) play in their academic performance was also investigated. The survey was limited to nine senior secondary schools in the Cape Coast Municipality. Peer relationship and socio-emotional measures were gathered for 302 mid and late adolescent boys and girls ranging from 16-20 years, the mean being 18 years for both genders. In addition, qualitative data was collected on classroom peer interactions and the teaching-learning process. This case study involved 92 students already selected from the nine senior secondary schools for the quantitative data collection. The case study covered a period of nine weeks, three weeks for each selected school. Results from the quantitative study revealed that aspects of peer relationships, particularly peer group membership, are related to classroom academic achievement directly but indirectly when the socio-emotional characteristics of subjects are taken into account. This came to light by way of correlational and regression analysis. The qualitative data revealed that the quality of peers' interactions in the classrooms impact on students' academic work.

Introduction

The researcher is of the view that "boardinization" compounds the problem of the adolescent as far as peer influence is concerned because he/she is separated from parents who should direct and guide him/her manage his/her academic life effectively. School authorities therefore have the onerous task of making sure that students' academic potentials are optimised.

Policy makers, educationists and parents are very much concerned about high academic achievement in senior secondary schools in view of the competitive nature of entrance into the country's tertiary institutions (UCEW Planning, 1995, 1997 & 1998; UCC Planning, 1996 & 1999, 2000).

School authorities, teachers, parents and their wards in particular are looking for a panacea for the falling academic standards so much talked about in recent times. The Ministry of Education through its organ, the Ghana Education Service (G.E.S.) has taken steps to provide textbooks, science laboratories, not to mention

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the much talked about Science, Technology and Mathematics Education (S.T.M.E.) programme for girls in senior secondary schools as well as in-service training programmes for teachers.

Guidance and Counselling services are also being stepped-up in Junior and Senior Secondary Schools to help the adolescents to deal with subjects and career choices. However, little thought has been given to the role peer relationships play in academic achievement. Emphases are put on other factors which influence academic achievement such as instructional strategies, social class, student-teacher ratios, student's feeling of self-directed competence, instructional materials and the academic proficiency of the learner (Sprinthall & Sprinthall, 1990).

In Ghana and elsewhere on the continent of Africa, peer influence is usually linked with drug abuse and teenage sexual aberration (Dickson, 1991; Hayibor, 1997). Some studies have also focused on achievement and other influencing factors (Fobih & Koomson, 1992; Brown, 1996; Ampadu, 1996). However, as at the time of the current study, literature available to the researcher revealed that studies on peer relationships and academic achievement had not yet been undertaken in Ghana.

It is generally viewed that the adolescence period is a critical period of the individual and a number of challenges arise during this period, which is a transition between childhood and adulthood. According to Rogers (1972) the term "adolescence" comes from a Latin verb "adolescere", meaning to grow up into maturity and so in this sense adolescence is a process rather than a period, a process of achieving the attitudes and beliefs needed for effective participation in society.

The Problem

The adolescents today are confronted with a complex social world in which they are largely segregated from adults who might guide them. These adults are unable to direct many adolescents because they are confined to the boarding house for the greater part of their senior secondary school years. Even during vacations, they see less of their parents who are often preoccupied working to earn a living. In these circumstances, the adolescents are challenged to conform to the social rules and norms of peers and face positive or negative peer influence their academic achievement.

In this regard, Wentzel and Caldwell (1997) in a study the U.S.A. found that peer relationships in early adolescence are related to academic accomplishments. Is this also true of adolescents in Ghana? The researcher of the present study explored peer relationships among mid and late adolescents in senior secondary schools in the Cape Coast Municipality in Ghana , and their impact on academic achievement.

The Purpose of the Study

The researcher has identified five (5) concepts of peer relationships namely: peer acceptance, reciprocal friendship, peer group membership, peer victimization and peer tutoring. The researcher's purpose on this study therefore was three fold:

1. To find out whether each of the five variables of peer relationships is unique or related to another;

2. To find the extent to which each variable as it stands on its own is related to academic achievement in senior secondary school.

3. To find out the roles that emotional or psychological distress, prosocial and antisocial behaviours, which are linked with peer relationships, play in students' academic achievement.

Research Questions

The following questions were raised in the study for investigations:

1. Are the five (5) variables of peer relationships (i.e. peer acceptance, reciprocal friendship, peer group membership, peer victimization and peer tutoring) distinct systems or related to one another?

2. Does each peer relationship have influence on academic achievement?

3. Which of the five (5) concepts of peer relationships is/are good predictor(s) of academic achievement?

4. To what extent can the five (5) peer relationships be observed to have indirect influence (i.e. taking into account the roles of socio-emotional variables) on academic achievement?

Hypotheses of the Study

The general Null hypothesis which was derived form the literature was, the overall peer relationships are not significantly related to academic achievement. In testing this hypothesis, the following sub-null hypotheses were formulated for the study out of the questions raised:

1. There are no significantly relations among the five (5) variables of peer relationships.

2. Each peer relationship is not significantly related to academic achievement.

3. There is no significant difference among the five (5) concepts of peer relationships as predictors of academic achievement.

4. There is no significant indirect influence of the five (5) peer relationships on academic achievement taking into account the roles of socio-emotional variables.

Literature Review

Each of the five targeted peer relationships has been associated with children's and adolescent's academic achievement. Slavin (1991) states that in addition to the influence of the child's family, the peers take on added importance. He supports his assertion by quoting Gordon (1975),

If all the world is the stage that Shakespeare claimed, children and adolescents are playing primarily to the audience of their peers. The peers sit in the front rows and the box seats; parents and teachers are now relegated to the back rows and balcony. (Slavin, 1991:74)

According to Seifer & Hoffnung (1991), research on peer groups conducted by Dunphy (1963) established two types – the *clique* and the *crowd*. The clique was a closely knit group of two or more people who were initially involved in a number of shared purposes and activities and who excluded those who were not. The crowd

was larger, less cohesive of between fifteen and thirty people and adolescent crowds were generally informal associations of two or four cliques.

In assessing the classroom as a social system, Agyeman (1986) stipulates that adolescents' classroom peer interactions have varying effects on the classroom dynamics. He is of the view that some peers may help their members to complement the learning process, thus promoting achievement of learners; others may lead members to rebel against the classroom norms and authority and thus disrupt the learning process. The teacher therefore should be aware of these informal groups in order to either control them within reasonable limits or use them for positive purposes.

Empirical studies have established a significant link between peer relationships and children's academic achievement. Parker and Asher (1993) observed that children routinely participate in more than one form of peer relationships and investigators who wish to understand how relationships affect adjustment to school and schoolwork must gather data on multiple forms of relationships. Herein lies the current investigation into the multiple forms of peer relationships. These are peer acceptance, reciprocal friendship, peer group membership, peer victimization, and peer tutoring.

It is reasonable to expect that students can have a direct impact on each other's academic performance by providing mutual assistance and modelling academic skills. On the other hand, it is possible that the pathway of influence is indirect with underlying social or emotional factors predicting both social and academic competencies (Wentzel and Caldwell, 1997). In the light of this, it is essential that the intermediary' roles of students prosocial and antisocial behaviours as well as their emotional distress be examined in the attempt to explain significant links that might exist between the five types of peer relationships and academic achievement in the current study.

Slavin (1991) defines prosocial behaviour as voluntary actions toward others such as caring, sharing, comforting and co-operating. In contrast, beahaviours which are disruptive and harmful (or potentially so) to the functioning of a group or society are considered anti social (Rebbers, 1988) Hornby (1974) defines emotional or psychological distress as mental pain or anguish.

Wentzel and Caldwell (1997) in the research findings on peer relationships and achievement in middle school suggest that peer acceptance might result in greater accessibility to resources that promote academic achievement, such as help with school work and sharing of information. They also revealed that reciprocal friendship is related to academic achievement although less consistent because significant relations were not evident when students' socio-emotional characteristics were considered.

As regards peer group membership, according to Seifert and Huffnung (1991) one study of junior high school boys found out that strong patterns of identification with teachers, school values and **peer groups** appeared to be related to academic achievement. Conflict between the demands of peer groups and those of the curriculum are therefore frequently related to underachievement.

Peer tutoring, a form of co-operative learning, has been found to be an effective technique for increasing students' academic achievement. In addition, researchers have found out that both tutors and tutees gain in achievement by participating in

peer tutoring. Tutors, however, usually benefit most from peer tutoring, perhaps because they engage in rehearsal of course content while preparing to teach tutees (Griffin and Griffin, 1997).

Lastly, according to Ladd, Kochenderfer and Coleman (1997) some researchers (e.g. Olweus, 1993) define victimization as the role that children occupy when they are bullied by peers— a sub-type of aggression that is unprovoked, chronic and perpetrated by a stronger child against a weaker one. Moreover, investigators posit that the harassment experienced by victimized children leads to preoccupations with worries and withdrawal from group learning activities, which may bring about contact with their "enemies", which in turn negatively influence academic achievement.

Methodology

Population and Sampling

The target population is all students in senior secondary schools in Ghana. But due to geographical constraints the accessible population is all the senior secondary students from the three stages in the nine senior secondary schools in Cape Coast Municipality. Initially, the researcher employed purposive sampling technique to select SS2 students in the nine schools in the Cape Coast Municipality. According to Cohen and Manion (1994), in purposive sampling, the researchers handpick the cases to be included in the sample on the basis of their judgement of their typicality. In this way, they build up a sample that is satisfactory to their specific needs. SS1 and SS3 students were exempted from the study because, the former had not been in the school long enough to have established any meaningful peer relationships; and the latter, being examination candidates, were feverishly preparing for their mock examinations and were from all indications not prepared to take part in the data collection.

Having thus selected the SS2 students, the probability sampling procedure, which allows every member or element in the population to have an equal chance of being chosen in the sample (Ary, et al, 1983) was employed. In all, nine classes offering various programmes were selected. A total number of 335 students were selected as subjects for the study. However, due to student absenteeism, the number was finally reduced to 302 students. Their age range was 16-20 years and the mean was 18 years for both genders.

For the case study, three schools – all boys, all girls and mixed were selected using the purposive sampling technique followed by simple random method for non-participant classroom observation by the researcher. The total number was 92.

Instruments

The researcher made use of the following multiple instruments in gathering data on the peer relationships: questionnaires, observations and interviews schedule.

To ensure face validity of the instruments experts in Guidance and Counselling, and a Psychology were made to examine the items. Some modifications were made before the instruments were piloted. The pilot study indicated that the instrument had high reliability, with reliability co-efficient ranging from 0.70 – 0.99.

Data Collection Procedure

The research instruments were administered to the subjects for the study at the commencement of the second term of the 1998/99 academic year during regular

class sessions for some schools and after class hours for others. The students' instruments were self-administered. Retrieval of responses from students was reasonably easy.

Qualitative data on peer relationships took the form of classroom observations of peer interactions, which lasted nine weeks, three weeks for each of the three selected schools. Students were also randomly selected and interviewed during the observations. Finally, permission was granted to the researcher to obtain from subjects' files second term examination marks in the core subjects at the beginning of the third term of the 1998/99 academic year.

Results

The statistics obtained on the data on the peer relationship variables are presented in Table 1.

Table 1   Data On Relationship Measures: Means Standard Deviations And Inter-correlations Among The Five Variables

Peer relationship variables	Mean	S.D	Inter-Correlations Among Peer Relations				
			1	**2**	**3**	**4**	**5**
1. Peer acceptance	36.8	4.31	1.00	.18**	.16**	.18**	-.08
2. Reciprocated friendship	12.8	9.14	.18**	1.00	.87**	.20**	-.09
3. Peer group membership	14.3	4.95	.16**	.87**	1.00	.13*	-.06
4. Peer tutoring	9.7	0.74	.18**	.20**	.13*	1.00	-.10
5. Peer victimization	13.2	3.0	-.08	-.09	.06	.06	1.00

* P<.05; **P<.01 (two-tailed)
N= 302

The purpose of the research question one was to find out whether the five variables of peer relationships as shown on the table are distinct systems or related to one another. The results as shown on the table indicate that peer acceptance, reciprocated friendship, peer group membership, peer tutoring and peer victimization are five relational systems although peer victimization has practically no relations with the rest.

The null hypothesis one was drawn to test whether there are significant relations among the five variables of peer relationship or not. The Pearson correlation coefficients as seen on Table I indicates significant relations among the peer relationship variables at 0.01 and 0.05 levels of significance with the exception of peer victimization. The null hypothesis one is therefore not supported. It can be argued that there are significant relations among the five peer relation variables with the exception of peer victimization.

For answering research questions two, three and four and testing hypotheses two three and four, correlation analysis and a couple of stepwise multiple regression tests were run. The independent variables in these tests are the five variables of peer relationships and the dependent variable is the academic achievement.

Peer relationship variables as predictors	Means	SD	Academic achievement
Peer acceptance	36.8	4.31	.12*
Reciprocated friendship	12.8	9.14	.26**
Peer group membership	14.3	4.95	.27**
Peer tutoring	9.7	.74	.09
Peer victimization	13.2	3.02	-.07

*P< .05; **P<.01
N = 302

The table above shows that reciprocated friendship and peer group membership correlated significantly and positively with academic achievement at 0.01 level of significance and the correlation coefficients are quite close to each other. Peer acceptance correlated significantly and positively with academic achievement at 0.05 level of significance. Peer tutoring correlated positively but not significantly with academic achievement. Again the correlation coefficient is quite low so relationship between the two is not strong (Cooligan, 1990). Peer victimization on the other hand, correlated negatively but not significantly with academic achievement. The null hypothesis two is therefore not supported. The conclusion is that three of the five peer relationship are significantly related to academic achievement. The answer to the research question two is that three peer relationships namely peer acceptance, reciprocated friendship and peer group membership have influence on academic achievement. However, since the correlation figures are low, the conclusion is that the influence is quite low.

Table 3   Contributions of each of the five concepts of peer relationships to academic achievement: results of stepwise multiple regression analysis.

Criteria for selection: PIN .05   POUT:.10

Peer relationship variables as predictors	Multiple R	Unstandardized Coefficients		Standardized Coefficients	T	Sig. T
		B	**Standard error**	*Beta*		
Significant Variables (at the last step)						
i. Peer group membership	0.27	.77	.16	.28***	4.99	0000
ii. Reciprocated friendship	0.36	.69	.17	.27***	4.70	0001
(constant)		54.49	5.27		14.61	0000
Non- Significant Variables						
i. Peer tutoring	—	.80	.296	.08	1.33	.19
ii. Peer acceptance	—	.29	.222	.07	1.19	.23
iii. Peer victimization	—	-.34	.310	-.06	-1.09	.28

Dependent variable: academic achievement;
*P <.05; **P<0.1; ***P<.001
N= 302

Table 3 reveals that peer group membership and reciprocated friendship were the only predictors which met the entry requirements of PIN .05 and POUT.10 based

on the highest partial correlation and the rest failed to enter the equation. Howitt and Cramer (1999) state that there are various ways of reporting the results of stepwise multiple regression analysis. They argue however that such a report should include key statements such as the independent variable that first entered the equation and the percentage of the variance it explains in the dependent variable.

Thus in the stepwise multiple regression analysis outlined above, peer group membership was entered first and gave Multiple R as 0.27458, R Square as 0.07349 and adjusted R Square as 0.07042. As there was only one predictor in the regression equation on the first step, Multiple R is a single correlation coefficient which is 0.27 to 2 decimal places. R Square is the multiple correlation coefficient squared which is, 0.07 to 2 decimal places or 7% This indicates that 7% of the variance in the academic achievement was explained by the first predictor ($F_{1, 300}$ = 24.85, P<.000).

Reciprocated friendship was entered second and gave Multiple R as 0.36181, R Square as 0.13424 and Adjusted R Square as 0.13148 which rounded to 2 decimal places are 0.36, 0.13 and 0.13 respectively. Thus reciprocated friendship and peer group membership together explained 13% of the variance in academic achievement.   This indicates that the second variable to enter the equation explained a further 6% ($F_{1, 298}$ = 22.98, P<.001). The Beta for the two selected predictors are quite close: 0.28 and 0.27 respectively.

At this point, analysis stopped as the rest of the peer relationship variables did not explain further significant proportion of the criterion variance.   Peer group membership and reciprocated friendship are therefore, the two peer relationship variables which are good predictors of or contributors to academic achievement. The null hypothesis three is therefore not supported. The conclusion then is there are significant differences among the five concepts of peer relationships as predictors of academic achievement.

Table 4 shows an interesting turn of events when the five concepts of peer relationships and the socio-emotional variables were combined in a stepwise regression procedure. As seen on Table 5, the peer relationship variable — peer group membership and the social inclination variable correlated significantly with each other. The socio-emotional variables also correlated significantly with each other. This explains their presence together in the regression analysis as seen in Table 4.

As the results in Table 3 revealed earlier on, peer group membership and reciprocated friendship emerged as good predictors of academic achievement when only the five concepts of peer relationships were regressed. However, the results as highlighted on Table 9 are different. The socio-emotional variables appear to have overshadowed the peer relationship variables with only peer group membership making it in the equation.

Table 4 A combination of peer relationship variables and socio-emotional variables as predictors of academic achievement: results of stepwise multiple regression analysis

Criteria for selection: PIN .05   POUT .10

Peer relationship variables as predictors	Multiple R	Unstandardized coefficients		Standardized coefficients	T	Sig. t
		B	**Standard error**	**Beta**		
Significant Variables (at the last step)						
i. Emotional characteristics (distress)	0.28	-.30	.07	-.23***	-4.34	0000
ii. Social inclinations (prosocial and antisocial behaviours)	0.37	.65	.16	.22***	4.06	0001
iii. Peer group membership	0.43	.66	.17	.21***	4.00	0001
(constant)		54.88	5.71		9.61	0000
Non-Significant Variables						
Reciprocated friendship	—	.21	.21	.09	.85	.40
i. Peer tutoring	—	.80	.30	.08	1.59	.11
ii. Peer acceptance	—	.29	.22	-.02	.34	.73
iii. Peer victimization	—	-.34	.31	-.04	-.80	.43

Dependent variable: academic achievement;
*P <.05; **P<0.1; ***P<.001; N= 302*

Table 5   Means, standard deviations and correlations between peer relationship variables and socio-emotional variables results of correlation

Peer relations/socio-emotional variables	Means	S.D.	Correlations between peer relations and socio-emotional variables						
			1	2	3	4	5	6	7
Peer relations									
1. Peer acceptance	36.8	4.31							
2. Reciprocated friendship	12.8	9.14							
3. Peer group membership	14.3	4.95							
4. Peer tutoring	9.7	.74							
5. Peer victimization	13.2	3.02							
Socio-emotional variables									
6. Social inclinations (prosocial & antisocial	16.1	4.88	.09	.23**	.18**	.07	-.17**	1.00	-.12*
7. Emotional characteristics (distress)	60.7	11.34	-.17**	-.08	-.10	-.06	.28**	-.12**	1.00

*P<.05; **P<.01 (two-tailed);*
N= 302

As indicated on Table 4 based on the highest partial correlation, the emotional variable— distress— was the first to enter the equation and it gave Multiple R as 0.28064 , R Square as 0.07876 and Adjusted R Square as 0.07569 which rounded to 2 decimal places are 0.28, 0.08 and 0.08 respectively. Since on the first step, emotional variable was the only predictor in the regression equation, the Multiple R is a single coefficient of 0.28. R Square, therefore, is the multiple correlation coefficient squared, which is 0.08 or 8%. This indicates that the emotional variable explained 8% of the variance in the academic achievement ($F1, 300 = 25.65$, P< .000). Its Beta score is 0.23.

This was followed by social inclinations— prosocial and antisocial behaviours. The Multiple R on the second step was .37181, R Square .13824 and Adjusted Square .13248 which rounded to 2 decimal places are .27, .14 and .13 respectively. Thus, on the second step, both emotional characteristic and the social inclination explained .14 or 14% of the variance in academic achievement. The second variable, social inclination therefore, explained a further 6% ($F1, 299 = 23.98$, P < 001). The Beta score for the second variable is .22.

Peer group membership was the last to meet the entry requirements. On this third step, Multiple R was .42821, R Square .18336 and Adjusted R Square .17514 which rounded to 2 decimal places are .43, .18 and .18 respectively. Thus the three variables on this step together explained .18 or 8% of the variance in achievement. The third variable which is peer group membership, therefore explained further 4% ($F1, 298 = 22.30$, P < 001). Its Beta score is .21. The analysis stopped on this third step.

This is a clear indication that the peer relationship variables, represented by peer group membership, have played second fiddle to the socio-emotional variables as influencing academic achievement. Their influence on academic achievement was indirect when the socio-emotional characteristics of subjects came into play. The null hypothesis four is therefore not supported. The conclusion then is that there is significant indirect influence of the five concepts of peer relationships on academic achievement taking into account the roles of the socio-emotional characteristics of subjects.

The case study report on the three selected schools was on a "thematic" analysis (Akyeampong, 1994) of data gathered in the form of observation/field notes and interviews. The analysis focused on the following themes:

i. Teacher behaviour (e.g. General classroom interaction with students)

ii. Student behaviour (e.g. peer interactions)

iii. Classroom management strategies (e.g. strategies of prefects for effective monitoring of classmates)

iv. Teaching and learning strategies (e.g. communicate among students and between teacher and students).

The method employed for the analysis of the qualitative data was iterative process of reading, reflecting and numbering the observation transcripts and interview notes and drawing out the major themes and patterns of views. This involved inductive reasoning and comparative method of analysis.

From the qualitative data, the findings on classroom peer relationships and practices shown to affect overall classroom learning/academic work are as follows:

1. Teachers and students played a major role in the development of student academic work.

2. Good peer relationship in the classroom was the fertile soil in which teacher's instruction grew to produce the fruit of effective learning. That is, healthy classroom peer relationships promoted classroom learning.

3. Formal classroom instruction by teachers in juxtaposition with peer relationships contributed greatly to student learning or academic work.

4. Students moved in cliques in the classroom and members of cliques came together and did academic work together.

5. Unaccepted and victimized students were inhibited in their academic work through lack of interactions with teachers as well as classmates.

6. Peer tutoring was a regular feature among peers in a classroom as a supplement to teachers' formal instructions; it was most regular during "teacher-less" times.

7. In single sex schools, both boys and girls were equally supportive of one another academically while in the co-educational school, girls were more supportive of one another than boys were of one another academically.

8. Unaccepted and victimized students were often subjected to peer teasing and ridicule which made them withdraw from academic activities.

9. Teachers often worked with active students thereby helping to enhance their academic work to the neglect of the reserved and the isolates.

10. Students in the same class considered one another as equals irrespective of age, sex or position and their mate who was the class prefect was seen as "primus interpiribus".

11. The peer bond in the classroom superceded all others in the school.

12. A healthy communication existed among students in the same classroom on one hand, and also between students in one class and their teachers, which fostered academic excellence.

It must be noted here that not all the qualitative findings collaborated with the findings from the quantitative data. Therefore items 1, 2, 3, 4, 5, 9, 10, 11 and 12 have been dropped in the discussion.

Discussion of Findings

Generally, the findings obtained in the current study offer several important contributions to the literature on adolescence peer relations. In the first place, since the present study investigated five concepts of peer relationships (three and four being the maximum for the previous two studies, Ladd et al, 1997; Wentzel & Caldwell, 1997), the study offers a greater insight into the dynamics of adolescence peer relationships and their influence on academic achievement.

Theory on peer relationships and academic achievement postulates that children participate in more than one form of peer relations and the study examined this assertion. As the results revealed, *there were significant relations among the five*

concepts of peer relationships with the exception of peer victimization. This is consistent with the findings of Ladd et al (1997) and Wentzel and Caldwell (1997) in the United States of America. However, the correlation coefficient are higher than the two previous studies, ranging from <u>low</u> to <u>strong</u> unlike that of the previous range of <u>low</u> to <u>moderate</u>. The correlation between peer group membership and reciprocated friendship stand out. The correlation coefficient .87 is near perfect positive relationship.

The reason for the strong relationship between peer group membership and reciprocated friendship in the present study could be found in the assertion that mid and late adolescents being more mature than their counterparts early adolescents, are able to form smaller units of friends and groups, when they are not accepted by the larger peer associates as found in the classrooms (Seifert and Hoffnung, 1991).

In conclusion, it can be argued that the findings of the present study with *moderate relationships* between peer acceptance and peer tutoring on one hand and reciprocated friendship on the other hand as well as *a strong relationship* between peer group membership and reciprocated friendships is a strong point to support the theoretical stand that children tend to participated in more than one peer relationship.

Secondly, the results of the current study revealed that *three of the five peer relationships were significantly related to academic achievement*. By implication this was a direct influence on academic achievement when only the five concepts of peer relationships without the socio-emotional variables were the independent valuables. The three peer relationships are **peer group membership**, **reciprocated friendship** and **peer acceptance**. This is consistent with the findings of Ladd et al (1997) who report that peer acceptance, number of friends and very best friends were predictively and positively associated with academic readiness and classroom involvement of their sampled six year old children and the different groups of adolescents as postulated by the theory on peer relationships and academic achievement. There is no respect of age here.

However, *peer tutoring* and *peer victimization* which have positive and negative non-significant relations with academic achievement respectively is in sharp contrast to the studies of Ladd et al (1997) and Wentzel and Caldwell (1997). The possible explanation for this difference could be found in the explanation that theorists on adolescence give that as adolescents (that is mid and late adolescents) approach the stage of adulthood, conformity to values and practices of groups wane and they become quite independent and able to cope, as was the case of the present study. Moreover, the sample subjects for the study were part of students in the senior secondary schools in the country being schooled and prepared for external examinations which would decide their fate for entry into tertiary institutions. It would not be wrong to say that they would therefore not allow any obstacle, certainly not peer victimization to prevent them from doing so.

With regard to peer tutoring, in contrast to previous studies where peer tutoring were structured and systematically done under supervision, the questionnaire on peer tutoring for the current study elicited opinions on peer tutoring. Real peer tutoring was not conducted by the researcher even though the researcher witnessed the popularity of peer tutoring among subjects during the case studies in the selected schools.

A couple of stepwise multiple regression analyses were done to first examine the unique contributions of each of the five concepts of peer relationships and secondly, a combination of the five peer relationship variables and the socio-emotional ones. The results of the first regression analysis as seen in Table 8 revealed that there were significant differences among the five concepts of peer relationships as predictors of academic achievement. In this procedure, only two of the peer relationships — peer group membership and reciprocated friendship — emerged as good predictors. This was no surprise because the two emerged as the two with a strong positive relation to each other as seen in Table 1.

Moreover, the temptation is for one to say that since the Beta for peer group membership which is .28 is higher than that of the reciprocated friendship, it is therefore a better predictor of academic achievement. This should not be the case because in a multiple linear regression it is not easy to determine how much each variable contributes to the model when the model consists of several independent variables that are integrated (Norusis, 1991). What can be done by looking at the coefficients is to determine the important independent variables for predicting the dependent variable. The contributions according to Norusis (1991) are shared. Thus the conclusion is that only the two independent variables, peer group membership and reciprocated friendship are good predictors of academic achievement.

However, a different picture emerged when the five peer relationship variables and the socio-emotional variables were put in the regression model together. The emotional variable (distress) was the first to meet the entry requirement of PIN .05 and POUT .10 in the model. This was followed by the social variable (Prosocial and antisocial behaviours). Peer group membership, the only one of the peer relationship variables, followed suit. Thus revealing that *there was significant indirect influence of the five concepts of peer relationships on academic achievement taking into account the roles of the socio-emotional characteristics of the subjects*. Emotional variable had a Beta of -.23. Thus its influence on academic achievement is negative. Social variable had a Beta of .22, a positive association with academic achievement and peer group membership, .21.

The findings of the current study is consistent with the findings of the previous studies. For example, Wentzel and Caldwell (1997) conducted two sets of analyses of covariance. First, sixth-grade peer relationship variables and socio-emotional variables were examined as predictors of sixth-grade G.P.A. Next sixth-grade peer relationship variables and eighth-grade socio-emotional variables were examined as predictors of eighth-grade G.P.A while controlling for sixth-grade G.P.A. For each set of analyses, two models were tested, one including only the peer relationship variables and one including the peer relationship variables and the socio-emotional variables. Results revealed that when the socio-emotional variables were included in the model, they overshadowed the peer-relationship variables. For example, for both boys and girls, the sixth-grade peer relationship variables were not significant predictors of eighth-grade G.P.A when the socio-emotional variables and sixth-grade G.P.A were taken into account. Eighth-grade socio-emotional variable and sixth-grade G. P.A were the only significant independent predictors of eighth-grade G.P.A. However, sixth-grade peer group membership in addition to the socio-emotional variables remained a significant predictor of sixth-grade G.P.A for both girls and boys.

The findings of the current study are a clear indication that just like peer relationships of the early adolescents of the study conducted by Wentzel and Caldwell (1997), peer relationships of mid and late adolescents are related to academic achievement in a complex way. Thus when the socio-emotional characteristics of these adolescents came into play, they superseded the peer relationships and exerted *direct influence* this time on their academic achievement. The reason lies in the fact that one's social inclinations influence his peer relationships and one's psychological or emotional state does influence his peer relationships adversely or otherwise and consequently impact on his academic achievement. This can be seen in the network of relations between the peer relationship variables and the socio-emotional variables as outlined on Table 10.

The presence of the peer group membership variable together with the socio-emotional variables confirms the importance of adolescent peer groups, either the clique or the crowd (Seifer and Hoffnung, 1991). It is indicative that cohesive (clique) more than less cohesive (crowd) social groups in the present study might be particularly influential in promoting and enforcing sets of norms and values that can either undermine or promote academic success. The mid and late adolescents in the senior secondary system who are cut off from home and parents due to "boardinization" are likely to find refuge and help from the clique.

The case study which sought to examine classroom peer interactions in relation to the teaching-learning process revealed a number of findings which are consistent with the current quantitative findings as well as the previous assertions as stated above. The major findings that collaborated with the quantitative findings are as follows:

1. In single sex schools, both boys and girls were equally supportive of one another academically while in the co-educational schools, girls were more supportive of one another academically. This finding is consistent with the finding of Kutnick et al (1997) in their case study, "Gender And School Achievement In The Caribbean". The finding of the present study is indicative that gender plays a role in the classroom peer interactions with respect to academic achievement in mixed schools. This could be the result of competition between boys and girls but where the school is either for boys or girls, both sexes tend to be supportive of each other.

2. **Unaccepted and victimized students were often subjected to peers teasing and** ridicule, which made them withdraw from academic activities. The qualitative data was for the purpose of collaborating the quantitative data and this finding is consistent with the findings of Ladd and associates (1997). However as the results of the quantitative study revealed, victimization was not a significant predictor of academic achievement. Students are able to rise above this problem in the senior secondary school since majority function in the cliques which support them as the study revealed.

3. Peer tutoring was a regular feature among peers in the classroom as a complementary work to formal classroom instructions. However as the quantitative data revealed, peer tutoring and its impact on academic work turned out to be non-significant. Perhaps subjects resorted to this in order to fill in the gap whenever teachers were absent.

Educational Implications

The findings of the study have implications for school authorities, students, parents, educationists and policy makers alike.

1. There are many studies on peer influence conducted in tertiary institutions in Ghana with respect to problems of drug abuse, alcoholism and teenage sexual aberrations but sadly not on academic achievement. The findings of the current study have revealed the reality of the influence of peers on mid and late adolescent academic performance. It has also shown that peer relationships are important because they afford the adolescent opportunities to learn social skills and help enhance his/her academic performance. Therefore, this study creates awareness of the need for education policy makers to pay attention to this area of students' learning and development.

2. The findings will open the eyes of school authorities, teachers and parents to the usefulness of peer relationships and be encouraged to nurture adolescent subcultures for their academic good rather than discourage them because of the usual stigma such as drug abuse attached to their existence in schools. For example, teachers could give group work according to reciprocated friendship basis.

3. The findings also call for teachers in the classrooms to recognize the value of peer groups (i.e. cliques) and the "stars"/group leaders in the classes and use them for effective academic work.

4. In the face of mounting pressures on teachers in the senior secondary system, the findings would promote the understanding of policy makers, school authorities, parents the need for organizing structured peer tutoring or even cross-age tutoring.

Implications for the Practice of Guidance and Counselling

The findings of this study have implications for the practice of guidance and counselling in secondary schools as well as university counselling centres which cater for the adolescents.

1. The present state of making non-professionals counsellors need to be rectified by Ghana Education Service in order to have professional counsellors better able to help students handle peer relationships effectively and whose sole responsibilities are to render counselling services in the schools.

2. The findings call for the need for teachers to liaise with professional guidance and counselling co-ordinators in the schools for effective monitoring of students' peer relations with respect to academic performance.

3. School authorities would understand and realize the need for peer counselling in their quest for a panacea for the falling academic standards. The university counselling centres will come in handy in the training of students for the practice of peer counselling.

The importance of sociometry for the purpose of giving guidance and counselling in the classrooms are evident from the findings from the qualitative data. For example, a teacher through the knowledge of the sociometric picture of the classroom could detect social "isolates" and thereby help them get integrated into the class group.

Conclusion:

In the first place, the findings of both the quantitative and qualitative data indicate that peer relationships do exist in the secondary school and they are important phenomena in the academic life of the adolescent. The findings go to conclude that peer relationships have significant link with the academic performance of the students of the senior secondary school. Moreover, the roles that students' social inclinations (prosocial and antisocial tendencies) and emotional or psychological state (distress) play in their academic performance should not be overlooked. These conclusions are in agreement with those of prior studies on both children and early adolescent peer relationships and academic performance.

Thus, the researcher among other things, recommends that policy makers, the Ghana Education Service (GES.), school authorities, teachers, parents and students take a closer look at the issue of peer influence and redirect it to have positive impact on students' academic performance in the quest for solutions for the current falling academic standards in the country's senior secondary schools.

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